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The OIL AND GAS JOURNAL

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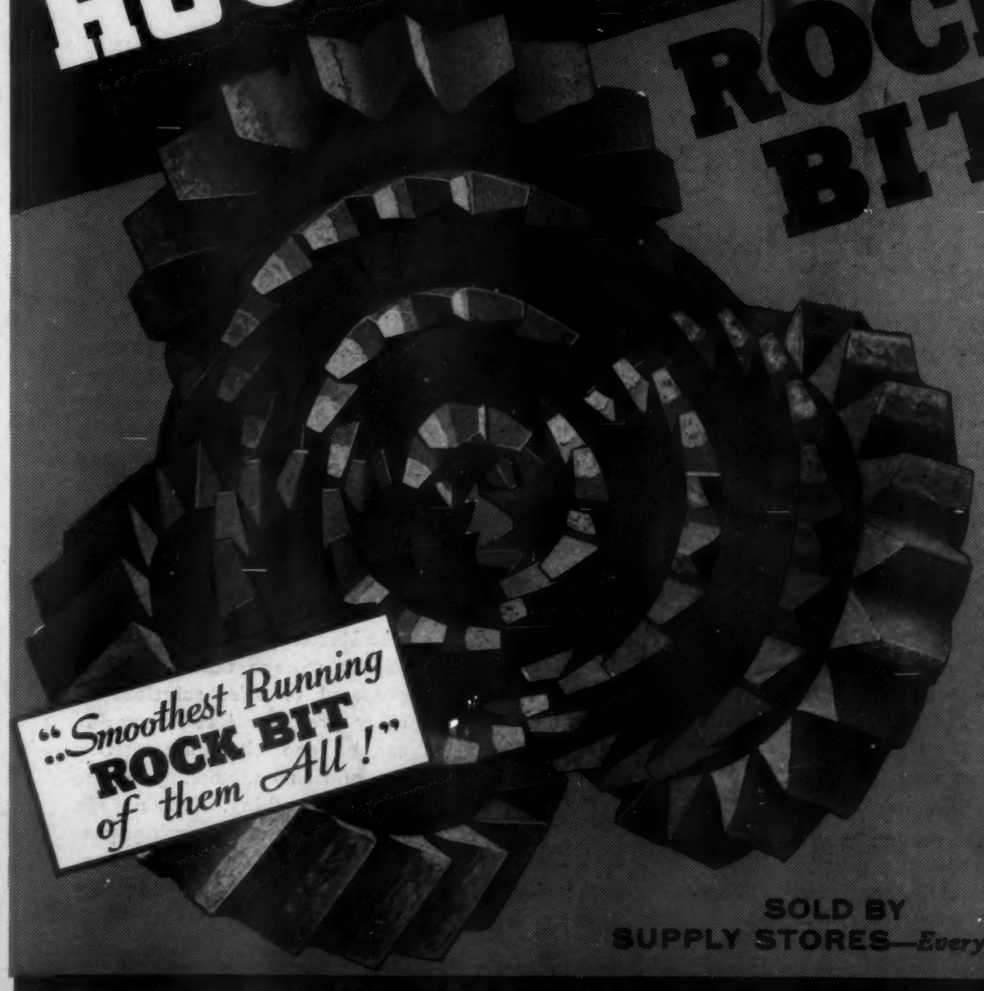

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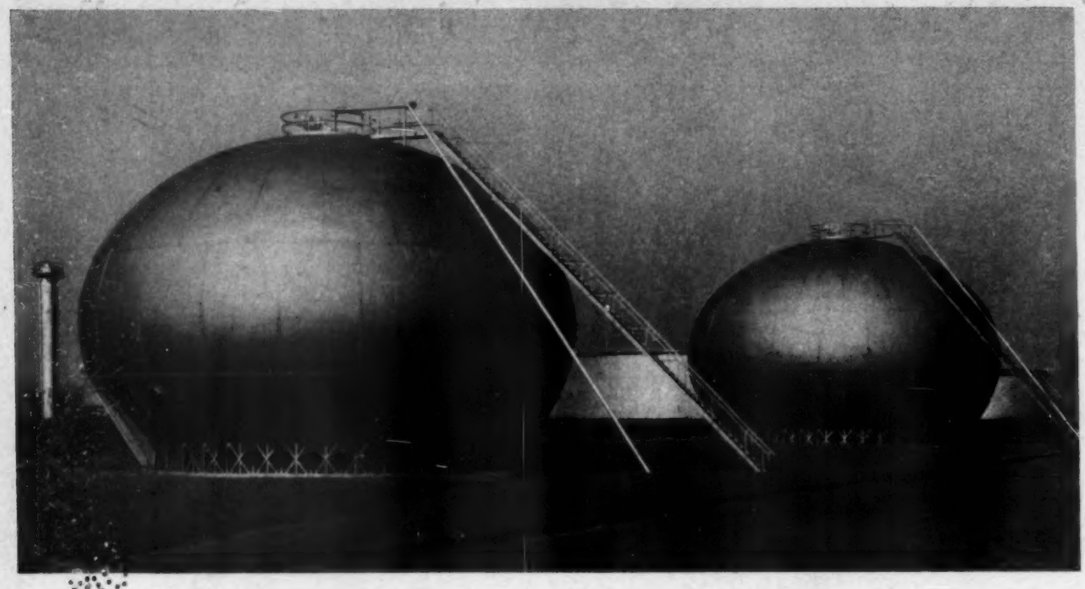

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For Storing Casinghead Gasoline Use the Hortonspheroid

TO illustrate the adaptability of pressure storage to specific problems in evaporation engineering, assume that casinghead gasoline is the product to be stored, that its Reid vapor pressure is 25 lbs., that a storage capacity of 20,000 bbls. is desired, and that the climate makes it necessary to protect against a liquid temperature of 120°.

Pressure Storage

Such gasoline boils at about 65° F. so obviously it cannot be stored in ordinary tanks without prohibitive loss. Even elaborate provisions for cooling cannot prevent frequent boiling under the conditions indicated. Pressure storage is the obvious solution. But how much pressure and what type of unit?

Since the vapor pressure in this gasoline will reach a maximum of about 30 lbs. at the maximum assumed temperature, the container must provide the 15 lbs. in excess of atmospheric pressure. Therefore, the first consideration is a tank designed to withstand an internal pressure of 15 lbs. per sq. in.

Large Capacity

The Hortonspheroid offers low unit storage costs for pressures of 10 to 20 lbs. per sq. in. It is built in capacities from 5,000 to 30,000 bbls.

Low Unit Cost

This container therefore offers the logical solution for the problem stated above. With a relief valve set for 15 lbs., the product would never boil and there would be practically no standing storage loss through evaporation. The entire capacity would be available in a single unit with a single set of pipes and fittings, making both for lower first cost and for economy in maintenance.

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The Hortonspheroid is only one of our storage units. We are prepared to offer solutions of other problems just as specific as the one cited above. Our evaporation engineering service costs you nothing. Why not ask for estimates of the savings possible and cost data for comparing these evaporation-stopping units with other tanks?

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SPECIAL ARTICLES

East Texas Hot Oil Rises ---- 7
By JAMES McINTYRE
Allred Opposes Federal Control ---- 8
By ANDREW M. ROWLEY
Texas Commission Given New Power ---- 8
Marland to Initiate Compact ---- 9
By ANDREW M. ROWLEY
Stretching Beyond His Limit (Cartoon) 9
Gasoline Buying Stopped ---- 10
By HUGH D. MALLON
Texas Protest Stirs Washington ---- 10
By L. E. BREDBERG
Code Decision Avoided ---- 10
New Campaign in East Texas ---- 10
Deeper Drilling at West Columbia ---- 11
By NEIL WILLIAMS
Soconoy-Vacuum Solvent Unit ---- 12
By C. O. WILLSON
Oklahoma City Wells Near Lift Stage ---- 14
By L. G. E. BIGNELL
New Labor Interpretations ---- 15
California Pact Dubious ---- 16
By L. P. STOCKMAN
Administrator's Report on Stocks ---- 16
News From Foreign Fields ---- 18
Federal Futility (Editorial) ---- 20
Small Rigs Shallow Area Factor ---- 35
By L. E. BREDBERG
Inhibitor Dyes in Gasoline ---- 35
Every Wildcat a Bet ---- 36
By T. F. SMILEY
J. Howard Pew Warns Industry ---- 42
Diesel Exhaust Use at Stations ---- 45
By L. G. E. BIGNELL
Pipe Line Construction ---- 51
Field Testing of Gas Meters ---- 52
By B. PORTER
Field Problems From Readers ---- 75
Edited by T. F. SMILEY
Plant Makes Refinery Chemicals ---- 85
Pipe Line Welding ---- 86
By F. C. HUTCHISON

FIELD OPERATIONS

Late Fields ---- 31
Southwest Texas ---- 46
West and North Texas ---- 48
By L. E. BREDBERG
East Texas ---- 49
By L. E. BREDBERG
N. Louisiana-Arkansas, Mississippi ---- 56
By J. R. CRUMPTON
Gulf Coast ---- 57-58
By F. L. SINGLETON
California ---- 60
By L. P. STOCKMAN
Kansas ---- 63
By JAMES McINTYRE
Eastern Fields ---- 64
By SPECIAL CORRESPONDENT
Michigan ---- 65
By PAUL A. ELLIOTT
Central West ---- 65
By GEORGE A. WHITNEY
Oklahoma ---- 67
By JAMES McINTYRE
Canada ---- 70
By VICTOR LAURISTON
Rocky Mountain Area ---- 70
By TOLBERT R. INGRAM

REFINING AND MARKETING

Group 3 Market ---- 22
By T. F. SMILEY
New York Market ---- 23
By C. O. WILLSON
A.P.I. Refinery Report ---- 23
Refining and Crude Prices ---- 24-25
Tank Wagon Markets ---- 26
News for Sales Departments ---- 27
News for Petroleum Refiners ---- 28
Natural Gasoline Manufacture ---- 30
Chicago Market ---- 32
Technical Questions Answered ---- 73
By C. K. FRANCIS, Ph.D.

GENERAL DEPARTMENTS

Gulf Port Shipments ---- 42
California Field Operations ---- 44
Bureau of Mines 1933 Report ---- 59
Eastern Pipe Line Report ---- 64
Natural Gas Developments ---- 74
Do You Remember? ---- 76
Personal Paragraphs ---- 76-77
Record of Oil Securities ---- 78
New Equipment ---- 84
Classified Advertising ---- 87
Index to Advertisers ---- 88

Refinery Section Starts on Page 22

OIL MAN'S CALENDAR

October

6-7—American Institute of Mining and Metallurgical Engineers, Petroleum Division, Tulsa.

9—Michigan Independent Petroleum Distributors Association, place to be named later.

10-11—Society of Automotive Engineers, Production Meeting, Detroit, Mich.

12-13—American Institute of Mining Engineers, Petroleum Division, fall meeting, Tulsa, Mayo Hotel.

16—Kansas-Oklahoma Division, Mid-Continent Oil and Gas Association, annual membership meeting. Date subject to change.

16-17—Chicago, National Association of Lubricating Grease Manufacturers, annual meeting, Stevens Hotel.

16-18—Big Four State Jobbers Association Convention, Kansas City, Mo.

18—Arkansas Oil Dealers Association, Hotel Marion, Little Rock, Ark.

24-25—Indiana Independent Petroleum Association, Inc., First Convention, Hotel Severin, Indianapolis, Ind.

29—American Gas Association Convention and Exhibition, Atlantic City, N. J.

November

Los Angeles, Calif., American Association of Petroleum Geologists, Pacific Section.

12-15—Dallas, Tex., annual meeting, A.P.I.

15-17—American Institute of Chemical Engineers, Pittsburgh, Pa.

National Road Oil Congress, Fourth Annual Meeting, Tulsa.

American Association of Petroleum Geologists, Pacific Section, Los Angeles.

December

6-7—Fifth annual meeting, Independent Petroleum Association of America, Fort Worth, Tex.

January

5-12—New York Automobile Show, Grand Central Palace, New York.

7—New York, Society of Automotive Engineers, annual dinner.

8-10—Milwaukee, Wis. Annual Convention and Equipment Show of Wisconsin Petroleum Association, Plankinton Hotel.

April

8-13—Oil Equipment and Engineering Exposition, Houston, Tex.

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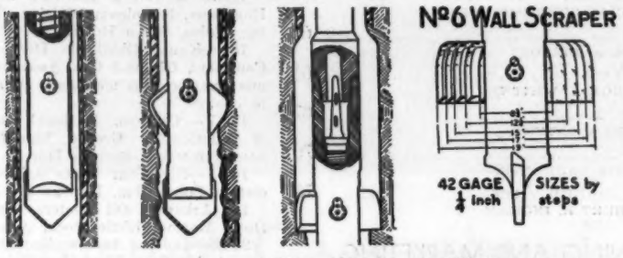
HERE'S the SAFE, SURE WAY to GET BIGGER, BETTER WELLS

You want bigger wells, and will agree that by cleaning and enlarging the area of the producing sand greater production usually can be secured in any well. But, until you have used a Baker Hydraulic Expansion Rotary Wall Scraper you cannot realize how simple and how safe it is to secure bigger and better wells by scraping away all plastered rotary mud and weighted materials which are sealing off your oil. You can cut away the oil sand to a diameter almost twice the size of the last string of casing, and set liner easily.

These drawings will help you to visualize the safety and the great capacity for expansion of the Baker Rotary Wall Scraper, and how it will help you secure "bigger" wells.



Running - in the hole with blades closed in body.

Blades cutting into formation as pumps and rotation start.

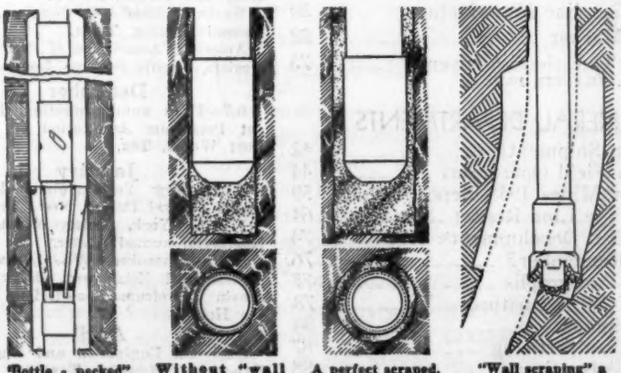
Blades fully expanded in cutting position.

Minimum and maximum gauge of hole possible to cut with one size Wall Scraper.

You also want "better" wells, and here again the Baker Wall Scraper will safely and surely enlarge the hole around the shoe, to insure a better job of cementing the casing.

The Baker Wall Scraper also will help you to drill straight, vertical hole in which you can set larger size casing and liners.

Here again pictures will best reveal its advantages . . .



"Bottle - necked" or a perfect C.P. cementing job.

Without "wall scraping" — no "bottle-neck" — a poor cement job.

A perfect scraped, "bottle - necked" cavity, ready for cementing.

"Wall scraping" a wide shoulder for straightening a crooked hole.

The complete bulletin, sent promptly upon request, will bring details, specifications and prices.

A FEW EXAMPLES OF WALL SCRAPER PERFORMANCE

Increasing Gauge of Hole. After neighboring well caught fire, State Authorities ordered this operator to set three strings of casing in order to set 7" pipe on the oil sand. It was necessary, therefore, to set and properly cement 10¾" casing through a 250-foot string of 13" O. D. casing already cemented in the hole. This was made possible by under-reaming the 12¼" hole (already drilled) to 15" with a No. 6 Baker Wall Scraper. The operator voluntarily spread the news that the Baker Wall Scraper had saved him about $700.00.

Cleaning Wells After Pulling Liner. A No. 4 Baker Wall Scraper equipped with 10½" blades was used to scrape and clean the oil sand after pulling the liner in a hole originally drilled to 8⅝". Only five hours were required for completion of this job to the entire satisfaction of the owner.

Setting Liner in Enlarged Hole. This operator desired to set 6⅝" liner through an 8⅝" water string, and used a No. 4 Baker Wall Scraper equipped with 9¼" blades. Only two sets of blades were required to ream 1,000 feet of 7⅞" hole (drilled in sandy, blue shale) to a gauge of 9¼". Total time consumed was less than 16 hours.

THE BLADES ALWAYS CLOSE When the string is raised, the blades of the Baker Wall Scraper close downward into the body. But even if a piece of rock or metal should wedge in the blade slot, when the top of blade contacts the casing shoe, like this . . the strong steel blade will shear through the obstruction and close safely inside the body. In shop tests, 1-inch steel bolts have been sheared through in this manner by applying pressure equivalent to six points on a weight indicator.

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COALINGA ▲ TAFT ▲ HOUSTON ▲ OKLAHOMA CITY ▲ TULSA ▲ NEW YORK CITY

East Texas Hot Oil Rises to 125,000 Bbls. Per Day; Solid Year of Dollar Crude in U. S.

By JAMES McINTYRE

EAST Texas continues to pour out about 125,000 bbls. per day of illicit crude oil. Much of this "hot" oil is being refined in the East Texas district; the balance is being shipped out. Last week it is estimated that East Texas refiners ran three times as much crude to stills as their gasoline allocation warranted. The field is given what amounts to a 400,000-bbl. daily allowable, but many producers pay no attention to their well allowable. They produce to the limit of their crude market, or, if they own refineries, to the limit of their gasoline market.

The new field in southern Houston County, Texas, received an early setback when a test failed to find production in the formation which yields oil in the discovery well.

Twenty-four locations have been staked for drilling wells near the discovery well in Hidalgo County, southwest Texas, indicating one of the liveliest development campaigns in that part of the state.

California operators are satisfied with the Federal crude oil allocation of 452,300 bbls. per day to that state in October. It is the opinion of some of the operators in that state that production should be kept down to an average of 450,000 bbls. through the winter, to be increased to 500,000 bbls. per day, next summer.

Good wells continue in the Lea County Field in New Mexico, one of which gauged 132 bbls. per hour, and extended the Eunice Pool.

Two important wells were reported from the Kansas fields, one of which connects the Haury and Burrton Pools in Reno County, and the other a Rice County wildcat showing for a relatively big producer. The latter well was shut in for tankage.

The Graben area in Oklahoma, of which the Fitts Pool in Pontotoc County is a part, is the most interesting field in Oklahoma. Graben takes in southern Pontotoc and portions of Coal and Johnston Counties, and is bound to see considerable exploratory work during the fall and winter as it holds out great possibilities notwithstanding it is very spotted.

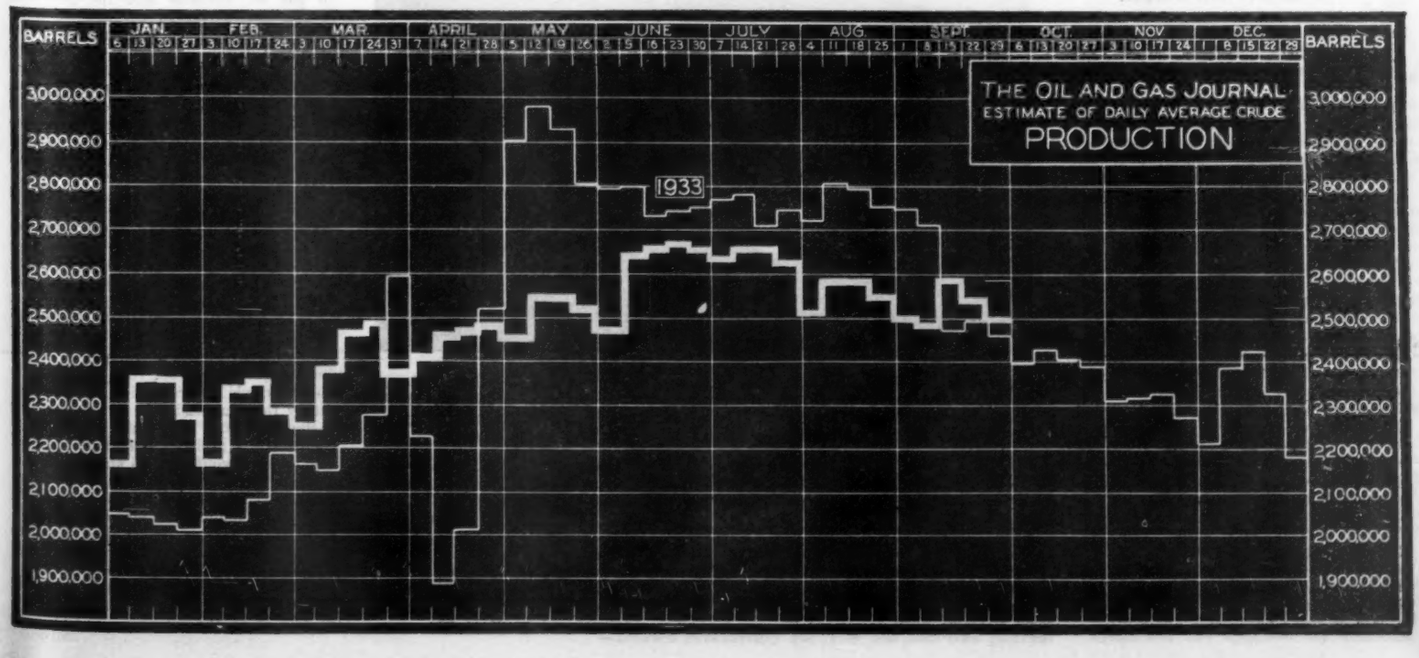
One year ago last Saturday, September 29, crude oil was advanced to an average price for the United States of about $1 per barrel. It still stands at that figure. The production of oil in the country during that 12 months was 903,000,000 bbls. in round numbers, indicating that the value of the oil produced was $903,000,000 the highest value placed upon 12 months crude oil production since 1930 when the income of producers for the year amounted to $1,070,200,000. The production of 1931 had a value of only $553,630,000, and in 1932 of $683,074,000. In the calendar year 1933 the production was valued at $608,000,000. In the last three months of 1933 crude averaged $1 per barrel but in the first 9 months the average was only 56 cents per barrel.

Crude Oil Production in the United States

Estimated daily average production for the week ending September 29, and a comparison with previous week and Federal allowables follow:

		Federal allowable	
Oklahoma—	Sept. 29	September	Sept. 22
Oklahoma City	139,270	.....	153,135
Seminole-St. Louis	79,690	.....	92,420
Remainder of State	232,245	.....	230,800
Total Oklahoma	451,205	461,000	476,355
East Texas—			
Lathrop	197,325	.....	196,675
Kilgore	178,475	.....	177,924
Joiner	151,275	.....	150,625
Total East Texas	527,075	.....	525,224
West Texas	157,223	.....	155,173
North Central Texas	86,900	.....	88,300
Texas Panhandle	61,625	.....	55,125
East Central Texas	52,175	.....	52,725
Gulf Coast—Texas	178,325	.....	176,679
Southwest Texas	57,724	.....	58,378
Total State of Texas	1,121,047	968,400	1,111,604
Kansas	122,160	120,700	126,360
North Louisiana	23,900	.....	23,850
Gulf Coast Louisiana	75,425	.....	74,125
Total Louisiana	99,325	87,200	97,975
Arkansas	31,245	29,300	31,240
Eastern Fields (except Michigan)	103,000	97,300	103,500
Michigan	30,038	29,300	30,471
Rocky Mountain area	99,680	91,500	98,150
California—			
Santa Fe Springs	36,750	.....	36,275
Long Beach	57,500	.....	62,500
Mountain View	9,600	.....	8,250
Elwood	8,100	.....	9,000
Kettleman Hills	54,500	.....	57,250
Remainder of State	278,550	.....	291,725
Total California	445,000	457,000	465,000
Total United States	2,502,700	2,341,700	2,540,675

Decrease 37,975 Bbls. Daily.



Allred Strongly Opposes Federal Control, Even Temporary; Making Careful Study of Compact Proposal

JAMES V. ALLRED

By ANDREW M. ROWLEY

AUSTIN, Tex., Sept. 29.—Reiterating his stand against Federal control of the industry in any form whatsoever in intrastate business, James V. Allred, attorney general of Texas, who will become governor of that state on January 1 next, told The Oil and Gas Journal here today he is strongly opposed to even any form of temporary control by the Federal Government because, he said, "you can never get away from temporary control." Temporary measures, in his opinion, soon become permanent fixtures, difficult or impossible to have repealed.

The recent decision of U. S. District Judge Edgar S. Vaught in the case of the United States against the Eason Oil Co. pleases Mr. Allred as he feels that decision bears out many of the contentions of Texas and Texas oil men that orders and regulations issued by the petroleum administration in Washington are unconstitutional. Mr. Allred also seemed to be quietly amused at the announcement by the Federal Government it was dropping prosecution of alleged violations of the state quota on crude oil production which alleged violations had taken place prior to September 25. Among cases said to be affected are the Amazon and Panama consolidated cases which were pending on appeal from Federal Judge Randolph Bryant's court in Tyler, Tex. Mr. Allred gave the writer the impression that, as an attorney, he felt someone had bungled. But, regardless of any possible bungling, Mr. Allred feels confident his stand for state's rights will be upheld by the highest court in matters relating to the oil industry.

Studying Interstate Compact

Mr. Allred is making a very careful study of the matter of an interstate compact relating to the petroleum industry but is not yet in a position to state definitely what his stand will be on the question. Existing laws in Texas and curtailment of crude oil production by state orders based on these laws are factors of paramount importance in consideration of an interstate compact which would have as its basic principle holding crude oil production in the various states to consumer demand.

The action of the Oil State's Advisory Committee in September, 1931, in setting a production figure for the State of Texas and the manner in which the figure was determined was the cause of much of the trouble and legal controversies regarding allowables, state orders, etc., experienced in Texas since that time, according to statements made by Mr. Allred.

"In face of the fact that the Railroad Commission of Texas was limited at that time (September 12 and 18, 1931) to consideration only of physical waste in the production of crude oil, the Oil States Advisory Committee set an arbitrary figure, limiting crude oil production in Texas to 902,000 bbls. daily," said Mr. Allred. "Naturally, the figure was attacked as an arbitrary determination and one not based on evidence. The law provided for hearings and a 10-days' notice in case of crude production allowables.

"That agreement, made September 18, 1931, setting an arbitrary figure for crude oil production in Texas, has kept us in a turmoil ever since. The courts would not uphold any order based on those figures for those figures were arbitrary and had not been determined in the manner prescribed by our laws which at that time did not permit consideration of market demand. Physical waste was the one factor which could be considered in the matter of curtailing production.

"Many persons in Texas even have considered the orders and regulations issued by Oil Administrator Ickes as merely an effort to carry out that old agreement.

"The experience with the Oil States' Advisory Committee and that body's setting an arbitrary figure for crude oil production in Texas rather than a figure based on evidence has made the people of Texas wary of such agreements. Any consideration of an interstate compact must start with the state laws as they exist and any agreement, naturally, must take these laws into consideration and be based on those laws."

Mr. Allred said the present conservation law of Texas now permits consideration of market demand but he indicated he feels that the market demand feature also relates to physical waste or the piling up of crude oil or its products which would constitute physical waste.

The provision in question was passed by the legislature as a part of the new conservation measure and was signed by the governor on November 12, 1932. That conservation measure says in part: "Section 1. The production, storage or transportation of crude petroleum oil or of natural gas in such manner, in such amount or under such conditions as to constitute waste, is hereby declared to be unlawful and is prohibited. In addition to its ordinary meanings, the term 'waste' shall include:

"(k) The production of crude petroleum oil or of natural gas where such gas is produced from wells producing gas only, in excess of transportation or market facilities or reasonable market demands, as determined by the Railroad Commission of Texas."

Legislature Meets in January

The legislature of Texas will open its regular session on January 2 next and that session will last for four months, unless matters before it keep the legislature in session longer. Legislators may continue the session as long after the four months as they wish but their per diem payment is cut in half at the end of four months. With the agitation throughout the petroleum industry increasing against any form of Federal control for the oil business and sentiment seeming to crystallize on an interstate compact, it is felt here the matter of Federal legislation in regard to an interstate compact can be decided before time comes for the Texas legislature to adjourn.

If it can be shown the best interests of the oil business and the people of Texas can be served through an interstate compact, such a measure will be given support. Sentiment here is very strongly opposed to any kind of Federal control but there is an equally strong desire to stabilize the oil business which is the greatest industry in Texas even exceeding the cotton industry in point of taxes paid and revenue for the state and people in the state.

The inclusion of the market demand factor in the conservation law and legislation passed in Texas since that time leaves very little to be done in the matter of additional legislation necessary to make an interstate compact effective. Mr. Allred says he believes the law enacted last week by the legislature and signed by the governor giving the Railroad Commission control of the shipment of refined products will aid very materially in holding crude oil production to allowables set by the commission.

Should Texas enter into an interstate compact it is probable the Texas Railroad Commission would be the state agency in charge of carrying out terms of the agreement. Mr. Allred said that as long as the Railroad Commission members make a conscientious effort to enforce the laws and regulations, he will back that body. There has been considerable discussion here on the matter of creating a separate body to have charge of regulations, etc., pertaining to the petroleum industry.

Texas Railroad Commission Given New Power

Gov. Miriam A. Ferguson approving the law extending Railroad Commission control over illegally-produced oil to refined products. Railroad Commissioner Ernest O. Thompson (standing, left) and the governor's husband-adviser, James E. Ferguson, were present

AUSTIN, Tex., Oct. 1.—Commissioner E. O. Thompson, on behalf of the Texas Railroad Commission, made the following statement:

"The Texas Railroad Commission sincerely hopes and confidently expects that senate bill No. 21 will prove an effective weapon against the illicit running of hot oil in East Texas. The bill does not become effective until December 25.

"Now pending on appeal is a case involving an order by which the commission sought to close the door of markets to refined products manufactured from hot oil. We believed when that order was issued and we believe now that the legislature meant us to take all proper steps to prevent the waste of the State's natural resources. The lower courts were not

(Continued on Page 31)

E. W. MARLAND

Oklahoma Will Initiate Legislation for Interstate Compact; Marland to Call Oil Conference in December

By ANDREW M. ROWLEY

Necessary legislation to achieve the consummation of an interstate compact among the oil producing states will be introduced into the legislature of Oklahoma soon after that body opens its regular session next January, according to a statement made to The Oil and Gas Journal this week by Congressman E. W. Marland, Democratic nominee for the office of governor of Oklahoma. Initiation of this legislation in Oklahoma will follow conferences Mr. Marland plans to hold with the governors or representatives of those states which produce more crude oil than they consume within their own borders. This conference will be called by Mr. Marland soon after the congressional investigating committee closes its hearings in December. The governors of all the states involved assume office on January 1.

Among the states which have a crude oil production in excess of local demand for crude or its products, in addition to Oklahoma, are Texas, Kansas, California, New Mexico, Louisiana, Arkansas and Michigan. Questions involving crude oil production and markets for the output of the different states will be discussed and plans made for the formation of an agreement which would be acceptable to the states desiring to enter into an interstate compact. With the exception of California the states have oil and gas conservation laws or conservation agencies already, consequently a minimum of difficulty is expected in the matter of securing basic legislation in the states for the compact.

Compacts Successful

If and when the different states approve of an interstate compact or agreement, such compact will be presented to Congress and that body asked to ratify it. Up to this time Congress has authorized and ratified something like 40 interstate compacts covering various matters of interest to the states such as boundary lines, rivers, fishing privileges, the diversion of water from a river traversing several states, the construction, operation and policing of bridges, and other questions in which two or more states have a common interest. All of these interstate compacts have been successful in their operation and have achieved the objects for which they were designed.

There are two methods of initiating an interstate compact. One is that proposed by Mr. Marland where the state takes the initiative and the compact as framed is then presented to Congress for ratification. The other is for Congress to authorize the states to enter into a compact. Mr. Marland feels time will be saved and the desired results achieved much quicker if the interested states agree on a compact and then present the finished document to Congress for ratification.

The State of Oklahoma will use every resource within its power to prevent the Federal Government from assuming control of the petroleum industry, Mr. Marland declared. He said no reason yet advanced by those advocating Federal control is valid or constitutional. In the matter of conserving petroleum for national defense, etc., Mr. Marland said Federal Judge Edgar S. Vaught, in his recent decision in the Eason case, disposed of that argument when he said the Federal Government has ample powers under the constitution to purchase oil lands and hold them for the benefit of the Government.

In the matter of reserves Mr. Marland pointed to the report prepared in 1925 by a committee of 11 members of the American Petroleum Institute in which report it was stated the quantity of petroleum recoverable by methods of pumping and flowing then in vogue from wells in areas then producing or proven totaled 5,300,000,000 bbls.

"I helped write that report in 1925," said Mr. Marland, "and I know how thoroughly every subject was investigated and the estimate of recoverable reserves was based on the best knowledge and information available at the time. Yet during the past nine years (1925-1933 inclusive) we have produced nearly 8,000,000,000 bbls. (government figure shows 7,777,645,000) of crude oil or half again as much as the total reserves estimated in 1925 and now government witnesses at the congressional committee hearing in Washington two weeks ago estimated our present reserves at 13,250,000,000 bbls.

"We not only have greater reserves than we had despite the 8,000,000,000 bbls. taken from the ground but with the great improvement of the past few years in drilling methods, recovery practices, better equipment and the ability to drill to heretofore unbelievable depths, we are in a far better position to still further increase those reserves and develop additional fields as they become necessary."

No Basis for Federal Control

Mr. Marland asserted there is no basis whatever for Federal control of the oil industry and that the State of Oklahoma certainly will fight to the last ditch to prevent any assumption of such unconstitutional authority by the Federal Government.

Mr. Marland will testify in Oklahoma City on November 12 or 13 before the congressional committee investigating conditions in the petroleum industry and assembling data to be used as a basis for recommendations to be made at the forthcoming session of Congress. He will proceed to Dallas, Tex., with the committee and it is possible he will meet James V. Allred, Democratic nominee for governor of Texas, in Dallas at that time.

Stretching Beyond His Limit

—Drawn exclusively for The Oil and Gas Journal

Administrator Approves Pool Development Plans

WASHINGTON, D. C., Oct. 1.—Secretary Ickes has approved plans for the development of the Thode Pool and Genesee Pool in Rice County, Kansas, and Angelita Pool in San Patricio County, Texas.

That all wells hereafter drilled shall be located in accordance with a well spacing plan. In the Angelita Pool, not more than one well to 20 acres may be drilled and no well shall be drilled at any point less than 466 feet from property or division lines, nor any point less than 933 feet from any drilling or completed wells adjacent to property lines. In the Thode Pool, not more than one well may be drilled in each 10-acre tract, based upon legal subdivisions, the well to be in the center of the tract.

Not more than 12 wells may be drilled in the Angelita Pool and not more than 5 wells may be drilled in the Thode Pool during 1934.

Each year shall be considered a separate development period and operators are required to submit to the administrator before December 10 of each year, a plan of the number and locations of wells to be drilled during the ensuing year, and no drilling may be started until the administrator has approved the locations.

Stop Gasoline Buying Until Law Is Enforced; Avoid Code Decision

By HUGH D. MALLON
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Oct. 2.—Announcement by the program committee that its gasoline buying activities would be suspended temporarily because of lack of enforcement of the regulations against "hot" oil, withdrawal by the Department of Justice of its appeal to the U. S. Supreme Court in a prosecution for violation of regulations in East Texas and rumors that the petroleum administration and the Department of Justice were about to launch another campaign in that field were features of the week in Washington.

The program committee, organized to negotiate purchases of distress gasoline, said it had decided to suspend operations, for the present, "to await action on the part of enforcement agencies in the stopping of shipments of gasoline produced from illegal crude oil."

The committee feels that "to date there has been a very constructive effect on the gasoline market," due to the activities of the committee, and that the greatest part of distress gasoline in the country, with the exception of East Texas, has been purchased, and removed as a menace to the market. It is hopeful that the Federal Government will quickly demonstrate that the hot oil situation can be coped with, so that the committee may resume its activities.

All contracts that have been entered into will be carried out, and the committee's inspecting force will not relinquish its duties. The rotating committee, in Washington, will continue in session, during the suspension of activities, while the district committees and contact offices will continue their reports to the committee of conditions in the field.

Test of Code Dismissed Because of Technicality

The Department of Justice announced that producers of oil in Texas who violated the state quota would not be prosecuted by the Federal Government for such violations committed prior to September 25.

Three cases are pending in the Supreme Court involving alleged violations of the National Industrial Recovery Act, the petroleum code, President Roosevelt's executive orders and Interior Secretary Ickes' regulations affecting oil production. The charges center on productions in excess of the Texas quota under that State's prorating regulations.

In the memorandum filed in the Supreme Court, the Department of Justice through Solictor General Biggs said that while these cases had been tried in the lower courts under the impression President Roosevelt had made production in excess of the state quota unfair competition and a violation of the petroleum code it has been discovered that provision had inadvertently been omitted and was not issued by the executive order.

The memorandum said the Government "has concluded that it can not, and therefore it does not intend to prosecute petitioners or other producers of oil in Texas, criminally or otherwise, for exceeding at any time prior to September 25, 1934, the quota of production assigned to them under the laws of Texas."

It added, however, that should producers produce in excess of such quotas after September 25 the Government would prosecute them under the National Industrial Recovery Act, on the ground that excess production would then be in violation of the petroleum code.

The action taken is with respect to Federal prosecution for the act of overproduction itself, and does not apply to various other infractions of the Federal laws such as shipment of illegal oil in interstate commerce, making untrue reports, or the like.

The case dismissed was that of the United States vs. Smith and others. Paragraph 2, Section 4 of Article 3 of the code through an oversight was not mentioned specifically by President Roosevelt in his executive order of September 13, 1933. This was brought to the attention of the Department of Justice officials by the attorneys for the defendants, and the withdrawal of the action was the result. The Panama cases have not yet been acted upon.

New Campaign Reported Ready to Be Undertaken

Reports current in Washington are to the effect that the Petroleum Administrative Board, the Division of Investigations of the Department of the Interior and the Department of Justice are ready to proceed with several prosecutions under Section 9 (c) of the National Industrial Recovery Act. This section prohibits the movement into interstate and foreign commerce of crude oil or its products, when such crude oil or the products thereof are produced in excess of the allowable set by any valid state law or regulation.

Vice Chairman Charles Fahy, of the Petroleum Administrative Board, and Louis Glavis, chief investigator, Interior Department, are on their way to East Texas. Mr. Ickes says they will co-operate but neither will be in charge.

Pipe Line Rate Inquiry Includes More Companies

The investigation of pipe line rates and practices, being undertaken by the Interstate Commerce Commission, has been broadened to include certain companies which have subsequently filed reduced tariffs with the commission. The specific companies that have been added are the Arkansas Pipe Line Corp., Continental Pipe Line Co., Inc., Gulf Pipe Line Co., Gulf Pipe Line Co. of Oklahoma, Humble Pipe Line Co., International Pipe Line Co., Pan American Pipe Line Co., Standard Pipe Line Co., Inc., Susquehanna Pipe Line Co. and the Texas Pipe Line Co.

Those companies already directly involved are the Atlantic Pipe Line Co., Empire Pipe Line Co., Oklahoma Pipe Line Co., Shell Pipe Line Co., Sinclair Prairie Pipe Line Co., Stanolind Pipe Line Co., Texas Pipe Line Co. of Oklahoma, Texas-Empire Pipe Line Co., and Illinois Pipe Line Co. Practically all interstate pipe line companies are now either directly or indirectly involved due to the fact that all companies which participate in the transportation as set out in the tariffs filed by these different companies are made respondents to the action.

The tariffs filed by the companies which have just been brought into the case due to filing reduced tariffs for gathering charges and for interstate shipments affect transportation from points in Arkansas, Kansas, Louisiana, Montana, Oklahoma, Pennsylvania, New Mexico, and Texas to destinations in Illinois, Indiana, Kansas, Louisiana, Missouri, Montana (international boundary), New York, Ohio, Oklahoma, Pennsylvania, Texas, and West Virginia.

It is the purpose of this investigation to determine legality of the reduced rates and gathering charges put into effect by the companies. They will determine whether or not the reduced charges are

(Continued on Page 31)

The Outlook in the Petroleum Industry

Every fundamental factor in the oil business points to greatly increased activity during next year. We are producing and consuming two and one-half times as much crude oil as we are discovering; domestic consumption of gasoline during the first seven months of this year was 99 per cent of the largest ever recorded in the history of the industry (in 1931); and, as a result, field operations are much greater than during last year.

The United States has been producing and using approximately 900,000,000 barrels of crude oil a year. During the 18 months from Jan. 1, 1933 to Sept. 1, 1934, according to government figures, the 59 oil discoveries made in this country created a crude oil reserve of approximately 600,000,000 barrels or only 40 per cent of the crude oil produced and utilized during that time. In other words, the industry is drawing upon reserves at the rate of 540,000,000 barrels of crude oil a year.

The East Texas Field was discovered in the Fall of 1930. Conroe came in in the Fall of 1931. There has not been a major discovery since Conroe despite increased drilling activity in various areas of the country.

During the first six months of 1933 there were 4,972 wells completed east of the Rocky Mountains. During the first six months of this year there were 8,292 wells completed in that territory. On Sept. 1, 1933 there were 2,721 drilling operations in that area while on Sept. 1, 1934 there were 3,545 drilling operations.

Gasoline consumption during the first seven months of this year totaled 229,859,000 barrels as compared to 214,392,000 barrels during the similar period of last year. For the same periods crude oil domestic demand in 1934 was 523,340,000 barrels while in 1933 it was 486,520,000 barrels.

Official Washington Spurred to Show of Activity by Protest From Texas

By L. E. BREDBERG

FORT WORTH, Tex., Oct. 2.—The protest of the Texas Petroleum Council on Federal inaction in East Texas started something in Washington.

The advisory committee of the council last Friday sent a telegram to Harold L. Ickes, oil administrator, declaring that agents of the Department of the Interior in the East Texas Field have gathered abundant evidence of violations of Federal oil regulations to warrant prosecutions and that such evidence should be submitted to the grand jury to convene in Tyler on Monday.

"Government inaction cannot be excused by any claimed lack of evidence," the council's telegram stated. "We request the right to put evidence which we have at our disposal and use before this grand jury next Monday. The situation is critical and urgent. The sentiment is crystallizing among the oil industry, based on lack of Federal activity, that if the Interior Department cannot enforce laws of undoubted validity with respect to interstate oil it would be useless to vest the Federal Government with control over both interstate and intrastate oil."

Louis M. Howe, secretary to President Roosevelt, wrote that the President had directed the departments concerned to investigate the council's charge.

Charles Fahy, vice chairman of the Petroleum Administrative Board, was instructed to make a personal visit to East Texas to study the feasibility of setting up a tender system along the lines of the Texas Railroad Commission's system. He was expected in Tyler during the session of the grand jury.

Harold M. Stempson, of the Department of Justice, wired that evidence had not been submitted by the Department of the Interior upon which to base prosecutions, but expected that several such cases would be submitted shortly.

Guy T. Helvering, commissioner of internal revenue, at Washington, wired:

"Reference your telegram to Secretary of Treasury, proposed tender committee is matter for Petroleum Administrative Board. Consult District Attorney of the United States regarding sufficiency of evidence you desire to present grand jury. Advise Internal Revenue Collector of alleged violations he should investigate."

The council had proposed an interstate tender committee to check out of state movement of "hot" oil which cannot be stopped by the East Texas tender committee operating under the State Railroad Commission.

E. O. Thompson, member of the Texas Railroad Commission, in Washington, said Assistant Attorneys General Stephens and Bell had told him they "saw no reason" why the Government should not proceed at once.

"I am confident they are going to get after this situation and clean it up pronto," he said.

Following announcement that the major purchasers will buy no more gasoline out of the East Texas Field until overproduction is checked, the purchase of 600,000 bbls. of distress gasoline in October is off. Only 36 per cent of the refining capacity in the field had signed under the plan. Many refiners continued

(Continued on Page 31)

Deeper Drilling in West Columbia Field Revives Brazoria County

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Oct. 1.—That inherent faculty apparently possessed by all salt domes of being able to stage repeated comebacks is coming to light again around many of the older fields of the Gulf Coast where development of new sources of production are actively under way. It seems, according to past experiences at Spindletop, Barbers Hill, Hull and others, that no matter how much drilling is done around a dome there always are additional possibilities open for exploration. Such potential untouched reserves comprise the objectives of one of the most important phases of the present coastal exploitation.

Among these old domes which have come back into the play and at which the development of new petroleum reserves is taking place in West Columbia, Brazoria County. Although the field has been one of the most prolific on the Gulf Coast and is noted for its very high acreage recovery, and in it have been some of the country's most famous wells, production until now has been confined to comparatively shallow sands covering a small area overlying the dome and immediately around it. Not until recent months have there been any particular efforts to locate additional sources of oil around the dome and for a number of years there has been practically no drilling of any kind in the field.

Deeper Horizons

Exploration initiated early this year by Miramar Oil Corp., which company within the past several weeks has been reorganized as the Sterling Oil & Refining Co., has indicated the existence of probable important production in the deeper horizons around the sides of West Columbia. In fact, one producing well has been completed in a horizon below 5,100 feet, although, due to mechanical difficulties and a bad hole, the outcome has not been entirely satisfactory, and it is likely the well, which has been making considerable water, will be worked over shortly.

The Sterling Oil & Refining Co., and its predecessor, Miramar Oil Corp., which has been active in developing deep production at several other old fields, notably Hull and Goose Creek, is composed of a group headed by R. S. Sterling, former governor of Texas, and once president of the Humble Oil & Refining Co., of which he was one of the organizers. With him in the new company are his son, Walter Sterling, as president, and M. "Bink" Manning as vice president. The latter was formerly general superintendent of the Gulf Coast division of the Humble Oil & Refining Co., and more recently has been head of the Houston Oil Field Materials, Inc.

Present Operations

The present operations of the company at West Columbia are on a 200-acre tract leased from the Hogg estate and located along the east flank of the dome, the nearest production, which is in sands around 3,500-3,800 feet, being from a quarter to a half mile west up on the dome. The first deep test, No. 1 Hogg, was junked and abandoned at 5,226 feet early in March after a blowout, which threatened to crater the hole. Efforts to pull stuck drill stem resulted in the derrick being pulled in.

The second test, the discovery well, just 75 feet north of the blowout, has been producing from a sand and shale at 5,137-90 feet. This is in the top of the Vicksburg. It was completed late in April flowing initially at the rate of 700 bbls. net oil, with about 25 per cent water, through a three-eighths inch choke, showing pressure of 650 pounds on tubing and 1,150 pounds on casing. This production has failed to hold up with the water increasing. The sand is in one of several sidetracked holes. The well originally was brought in from sand at 5,650-86 feet, from which it flowed only a short time. It was deepened to a total depth of 6,010 feet, where another attempt was made to complete a well. Due to hole difficulties, this attempt was unsuccessful and the well was plugged back to 5,200 feet, where a test was made of the present producing level. Because of water, the well was killed and a new hole, sidetracked, drilled back to this sand, in which it was completed.

The third test, now drilling, is approximately 150 feet northeast of No. 2 Hogg. Bottom of the hole is 6,087 feet, where an attempt to complete a well resulted in testing considerable gas with a small amount of light gravity oil. The well has been killed and the hole will be deepened. In this hole, the last 1,300 feet consisted of a section of heaving shale interspersed with numerous sand lenses all showing oil and gas. At a depth of 6,003 feet, as the 7-inch casing plug, cemented at 5,973 feet, was drilled out, the well blew out over the crown block but quickly was brought under control.

Drilling Difficulties

Of particular interest in this well is the successful drilling of the heaving shale section and the control of the heavy gas pressures which were encountered. This was accomplished by very careful conditioning of the drilling fluid. A constant watch of the weight, viscosity and colloidal strength of the mud was kept under the direction of J. W. O'Brien of the Baroid Sales Co., and M. Manning, vice president and general superintendent of the Sterling Oil & Refining Co., both of whom remained at the well at all times during the drilling of the shale.

When the shale section was entered, the mud was kept at a weight of 11 pounds with a viscosity range of 40 to 60 seconds (the viscosity being based on the time required for 500 cubic centimeters of mud to pass through a funnel, through which the same volume of water would flow in 19 seconds). When gas was encountered the weight of the mud was increased gradually to between 13 and 13.5 pounds, while the viscosity range was changed from a range of 40 to 60 seconds to a range of 40 to 45 seconds.

View through Humble Oil & Refining Co.'s Japhet 20-acre lease on southeast side of West Columbia Field. This lease has produced more than 15,000,000 bbls., or 750,000 bbls. an acre

The weight of the mud was controlled by the use of Baroid, a total of 4,000 sacks of Baroid No. 3 being required. The viscosity was maintained at the desired points by injection of Stabilite No. 3, a chemical, into the mud stream as it was discharged from the well into the pits. Between 15 and 20 drums of this were required. A small amount of Aquagel, totaling in all 30 sacks, was mixed in the mud to provide the proper colloidal strength for building up and maintaining the walls of the hole through the heaving shale. To facilitate the relief of gas from charged mud which came from the well, the mud in the pit was kept in almost constant agitation.

In combatting heaving shale in this well, as is true in most other successful drilling of this formation, particular stress was placed on the control of the viscosity and gel strength of the fluid. Every effort was made to have as light a mud as possible and only sufficient weight was carried to hold the gas pressures.

How successful the operators were in drilling the 1,300 feet of shale section and maintaining good hole walls is indicated in the fact that no difficulties were encountered in running in the 7-inch string of pipe. With this casing seated at 5,973 feet, approximately 1,175 feet of the pipe is in the shale. Only 12 hours elapsed from the time the casing was started into the hole until it was cemented.

Since the completion of No. 2 Hogg producer, Texas Co. has entered the deep development by the drilling of its No. 84 Hogg, a direct offset 100 feet distant in toward the field. It is at a total depth of 5,131 feet with casing cemented on the pay horizon.

The return of exploration to West Columbia is of special interest in view of the attention being paid the prolificness of its shallow sands. The field already has produced more than 73,314,000 bbls. With a productive area of less than 300 acres, the average recovery has been approximately 244,380 bbls. an acre, which is exceeded only by the recovery at Spindletop.

One of the most outstanding lease production records in the history of the oil business has been made by one 20-acre tract at West Columbia. This is Humble Oil & Refining Co.'s Japthet lease, on the southeast side, which has yielded a total of more than 15,000,000 bbls., or an average of 750,000 bbls. an acre.

West Columbia has been a field of big wells. A high percentage of completions

(Continued on Page 44)

Picture taken on derrick floor of Sterling Oil & Refining Co.'s No. 3 Hogg, a deep well on east side of old West Columbia Field. Left to right: Cecil Watts, Ed Watts, director of Sterling Oil & Refining Co.; Mike Hogg, one of the landowners; former Governor R. S. Sterling of Texas, general manager and one of the organizers of the Sterling Oil & Refining Co.; John Hogg, also one of the landowners; M. "Bink" Manning, vice president of Sterling Oil & Refining Co.; L. O. Koen, vice president of W-K-M Co., Houston; Walter Sterling, president of the Sterling Oil & Refining Co., and son of R. S. Sterling; Ed Phillips, one of Mr. Sterling's associates in the company; C. J. Hillman, Oil Center Tool Co., Houston; "Red" Church, Texas Iron Works, Houston. Sterling Oil & Refining Co. recently was organized being an outgrowth of the Miramar Oil Corp.

Socony-Vacuum Places Paulsboro Solvent Unit on Full Operating Time

By C. O. WILLSON

The Socony-Vacuum Oil Co., Inc., for several weeks has had in operation at its Paulsboro, N. J. refinery, a new plant to be used in the production of a variety of lubricating oils of which the company is one of the largest manufacturers in the oil industry. The design and operation of the unit is based on a new method of refining called the Duo-Sol process which briefly described involves the separation of charging stocks into paraffinic or lubricating oil components and their naphthenic or objectionable components through the use of solvents.

Decision to install the plant was made by the Socony-Vacuum Co., Inc., after an investigation by the manufacturing and research departments in line with the policy of using processes which result in the production of the highest grade lubricants. Before the large unit which has a rated charging capacity of 3,400 bbls. of oil daily, was installed, exhaustive experimental tests on a semi-commercial basis were made with a large number of stocks obtained from representative domestic and foreign crude oils. Indicative of the important part that these pilot plant operations have come to play in the design of modern refinery equipment it has been found that the Paulsboro plant so far as tests have been made up to this time has readily duplicated the results obtained in the smaller experimental units.

Aside from the results obtained in the manufacture of improved lubricating oils, the unit is of interest because of the mechanical features reflecting the perfection which has been obtained in the design of equipment that has made a simple operation of a process which a few years ago would have been highly involved. The plant—the main features of which are shown in the accompanying flow diagram—consists of three distinct phases, all of which are correlated in one continuous operation. The first operation has to do with the equipment used in treating the oils with liquid solvents, the second operation with the recovery of the solvents from the paraffinic oil and the third operation centers around the recovery of the solvents from the naphthenic oil.

Close-up view of the lubricating oil unit at Paulsboro. The control room is shown in the center, closed steam evaporators on the right and final stripping towers on the left

Extractor Operation

The extractor consists of nine mixing and settling stages so arranged that the naphthenic solvent may be pumped from stage to stage in a direction opposite to the flow of the paraffinic solvent. Intermediate naphthenic and paraffinic layers are mixed with the oil to be treated and fed after cooling to an intermediate extraction stage. At this point a separation of the oil occurs, a more paraffinic fraction going into solution in the paraffinic solvent and a more naphthenic fraction going into solution in the naphthenic solvent. Two layers are formed, the upper and lighter of which is the paraffinic oil in the paraffinic solvent and the lower and heavier is the naphthenic oil in the naphthenic solvent. The paraffinic layer flows by stages in the opposite direction to that of the naphthenic solvent and is finally removed from the extraction stage to which the fresh naphthenic solvent is added. The naphthenic layer produced at the point of adding oil to be treated flows in a direction opposite to that of the paraffinic solvent and is finally removed from the extraction stage to which the fresh paraffinic solvent is added. Thus an oil to be treated is first divided roughly into naphthenic and paraffinic fractions and these fractions are purified in successive stages by contact with fresh solvent.

The solvent recovery system for the paraffinic layer consists of a high-pressure evaporator for the removal of propane (the paraffinic solvent) an atmospheric evaporator for the removal of Selecto (the naphthenic solvent), and a vacuum stripper for the removal of final traces of Selecto.

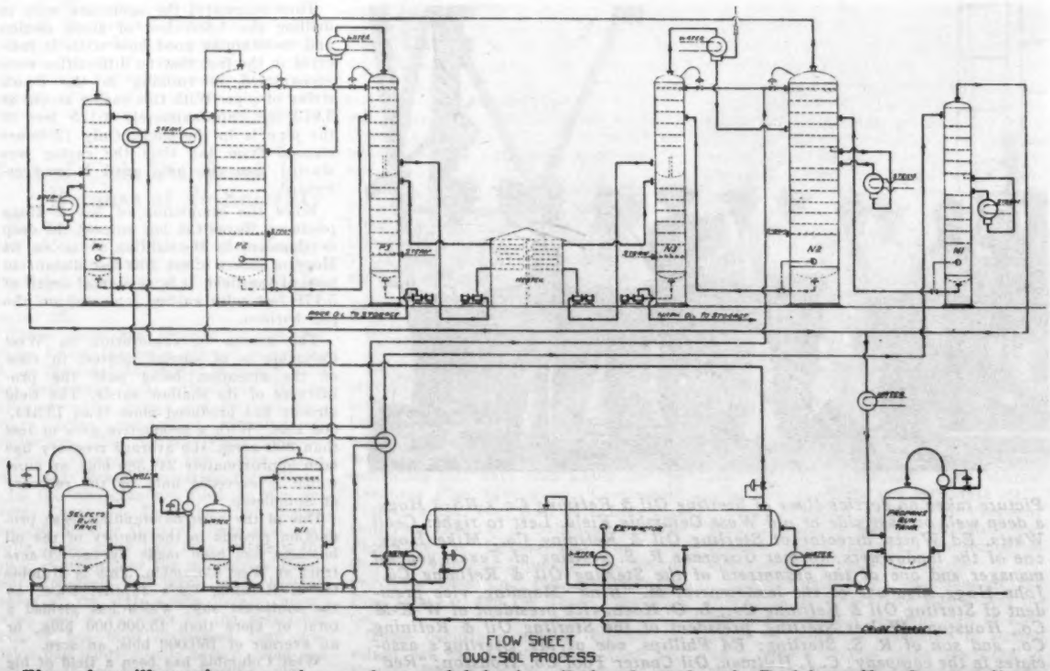
The solvent recovery system for the naphthenic layer consists of the same units as for the paraffinic layer but differ in relative size and capacity because of the reduced propane content and increased Selecto content.

Recovery Operations

The solvent recovery equipment for the paraffinic layer and its operation may be described as follows. The paraffinic layer from the extractor is preheated by Selecto vapor and fed to propane evaporating tower P-1. This tower operates at a pressure of approximately 250 pounds per square inch so that propane may be liquefied by cooling water and held under pressure as a liquid for reuse. A steam reboiler is utilized in P-1 to assist in the vaporization of propane. The P-1 bottoms, consisting chiefly of paraffinic oil and Selecto, are fed through a steam preheater into evaporator P-2 which operates at atmospheric pressure. Steam is utilized for stripping and Selecto is used for reflux. The mixed Selecto and steam vapors from this evaporator are fed to W-1 in which Selecto is freed from water. The bottoms of P-2 are fed to the vacuum stripper P-3 which is provided with a tube still reboiler. Steam is added for final stripping and Selecto is used for reflux. The vapor from P-3 containing a small amount of the lower boiling fractions of the paraffinic oil is condensed and returned to P-2 for the recovery of Selecto. Paraffinic oil containing on the average less than one-tenth of one percent Selecto is removed from the bottom of P-3 and pumped to storage.

The solvent recovery equipment for the naphthenic layer is essentially the same as that for the paraffinic layer except that the feed to the propane evaporator N-3 is preheated by Selecto condensate and the Selecto vapor from the atmospheric evaporator N-2 is utilized for preheating the paraffinic feed to P-1 and a steam heated reboiler is provided for supplying the heat to N-2. Naphthenic oil containing in general less than one-tenth of one per cent Selecto is removed from N-3 and pumped to storage.

Selecto vapor and condensate from N-2 and P-2 are discharged into W-1, which is operated at atmospheric pressure. The temperature at the base of W-1 is sufficiently high so that Selecto may be removed relatively free of water.



Flow chart illustrating operation at the new lubricating oil plant located at the Paulsboro, New Jersey refinery of the Socony Vacuum Oil Co., Inc.

The overhead vapor is a constant boiling mixture in which the ratio of water to Selecto is high. This mixture is condensed and is utilized for reflux and is also employed, after being vaporized, as stripping steam in evaporators P-2, P-3, N-2 and N-3. The Selecto condensate from the bottom of W-1 is discharged through a cooler into the Selecto run tank.

Obtain Sharp Separation

The sharp separation secured between the lubricating and nonlubricating components of a given charging stock including impurities has been likened to the results obtained with a modern fractionating column in the refining of light oils. In the Duo-Sol operations the naphthenic solvent acts as a reflux and the paraffinic solvent has the same function as the stripping steam in the fractionating column. As in the column with the reflux and steam the counterflow action of the solvents gives the separation necessary to secure finished products of the desired specifications.

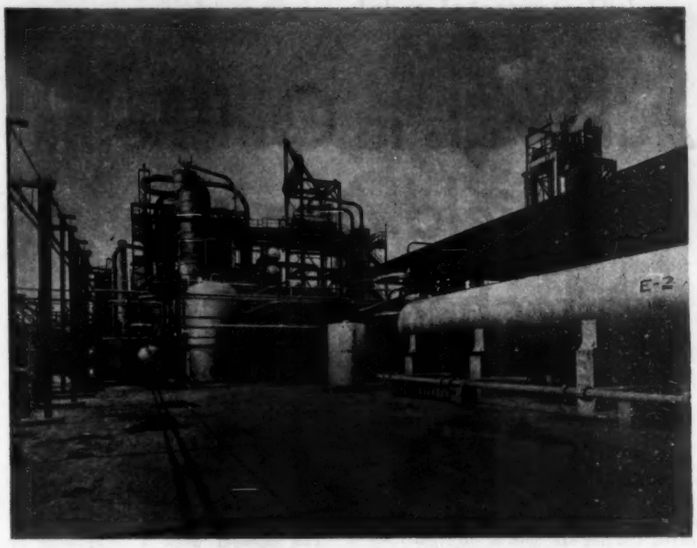
The use of two solvents is the basic feature of the installation at the Socony-Vavuum refinery. In the early stages of the development it was found that the use of a single solvent did not give the desired results. The objective was to have the paraffinic oil as free of naphthenic oil as possible and vice versa and this could best be obtained through the countercurrent action which has been described. Investigators also found when using a single solvent after the naphthenic oil has been dissolved to a certain point, the solution of naphthenic solvent and the naphthenic oil becomes a solvent for the paraffinic oil. This action obviously if not controlled will result in a decreased yield of the paraffinic or finished lubricating oil. At the same time it was found that at a certain point, the paraffinic solvent and paraffinic oil solution acted as a solvent for the naphthenic oil and this in turn meant a sacrifice in the quality of the finished paraffinic oil.

To take care of this situation the two-fold operation was decided upon. An operation was perfected in which the paraffinic solvent is fed to the bottom and the naphthenic solvent is fed to the top of the extraction system. In actual operation as shown in the flow diagram the paraffinic solvent flows from the bottom towards the top of the extraction system. The naphthenic solvent flows countercurrently to the paraffinic solvent from the top to the bottom of the extraction system. The crude charge as introduced into the center of the system is immediately separated into two constituents, one of which is more paraffinic than the other. The more naphthenic constituent flows from the center of the extraction system continuously towards the bottom of the extraction system. The paraffinic constituents flow from the center of the extraction system towards the top of the system. Thus, the paraffinic solvent is continuously stripping the paraffinic oil from the more naphthenic constituent of the crude. At the same time, the naphthenic solvent is continually washing the naphthenic content from the more paraffinic constituent of the crude. As the paraffinic oil is taken from the top of the extraction system, it is free of naphthenic constituents. As the naphthenic fraction of the crude is taken from the bottom of the extraction system it is free of the paraffinic fractions or the good lubricating oil.

The yields and characteristics given in the accompanying table based upon pilot plant operation have been duplicated in commercial installations insofar as the oils shown have been used as charging stocks.

The Duo-Sol process was developed by Max B. Miller & Co., New York, licensors of the process.

Inside view of the extractor room showing tanks and motor driven pumps which control operation



General view of the new unit for the manufacture of lubricating oils at the Paulsboro, N. J. refinery of the Socony Vacuum Oil Co., Inc. The extractor's tank is shown on right. The reagent work tank is shown in the center and closed steam evaporators above

Yields and Characteristics of Duo-Sol Paraffinic Oil

Oil Specifications—	Ranger Burbank Residuum	Oklahoma City Residuum	Pecos County Residuum	Kansas Long Residuum	Deep Sand Reagan Residuum	Mid-Continent Hendricks Residuum	Mid-Continent Pipe line Residuum	Panhandle Dewaxed Overhead	San Joaquin Distillate
Charging stock									
Flash	450°	480°	455°	485°	555°	455°	530°	520°	465°
Gravity A.P.I.	23.5	23.6	15.2	18.6	22.4	16.8	21.1	22.9	16.3
Viscosity @ 210° F.	84	93	289	154	205	147	197	95	96
V. G. C.	0.8480	0.8395	0.8895	0.8700	0.8350	0.8560	0.8465	0.8445	0.8970
Paraffinic oil before dewaxing									
Flash	445°	475°	440°	470°	550°	440°	520°	....	440°
Gravity A.P.I.	29.9	29.8	28.0	29.5	28.1	27.6	28.3	....	26.8
Viscosity @ 210° F.	61	66	78.7	86.5	121.5	67	104	....	53.6
V. G. C.	0.8030	0.8010	0.8095	0.8035	0.8090	0.8170	0.8010	....	0.7990
Specific gravity of separated naphthenic fraction	1.045	1.037	1.037	1.037	1.029	1.017	1.026	1.037	0.9865
Per cent yield of paraffinic oil before dewaxing with relation to charge	78.4	78	48.3	59.5	76.9	49.3	70.2	78.4	
Paraffinic oil after dewaxing									
Flash	445°	475°	440°	470°	550°	440°	520°		
Gravity A.P.I.	29.0	28.6	27.8	29.1	27.3	27.5	27.3		
Viscosity @ 100° F.	569	642	868	515	1930	580	1579		
Viscosity @ 210° F.	65	72	81.7	66	133.2	67	118		
V. G. C.	0.8100	0.8075	0.8095	0.8060	0.8044	0.8170	0.8065		
V. I.	100	100	95	103	99.5	94	100		
Color N.P.A. (see note)	6	7	8	8	8	4½	8		
Cloud	15°	—5°	—0°	0°	—0°	—0°	—0°		
Pour	20°	10°	0°	5°	10°	—0°	0°		
Carbon residue, per cent	0.23	0.18	0.25	0.20	0.446	0.15	0.29		
Navy emulsion test	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.		

NOTE—Color indicated is that produced by Duo-Sol processing without other treatment.

New Testing Methods Under Consideration by A.S.T.M.

Committee D-2 of the American Society for Testing Materials has announced a number of important projects under way. Various corrosion tests for lubricating oils are being studied with the expectation that a standardized procedure may be recommended. Methods for determining softening point of greases and for the consistency of soft greases are being drafted.

The subcommittee on viscosity is continuing its study of methods of expressing viscosity-temperature relationships, and will attempt to develop a method of determining the viscosities of lubricating oil at 0° F. and also a method for determining true viscosity of certain plastic and semiplastic oils.

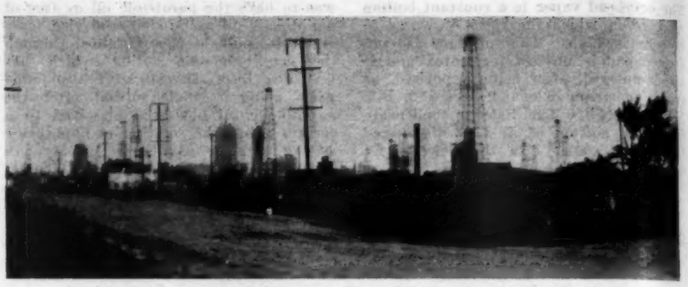
The committee is working on a method for the more accurate measurement of the flashpoint of viscous liquids, especially cutback asphalts and suspensions of solids, than is now possible with any of the three standard methods, namely, the open cup method (D 92), the Pensky-Martens closed tester (D 93) and the Tag closed tester (D 56). The subcommittee has developed a modification of the Standard Method of Test for Flash-point by Means of the Pensky-Martens Closed Tester (D 93—22) to permit of a better control of the rate of heating and a rapid, continuous stirring of the material being tested.

In co-operation with the National Association of Lubricating Manufacturers and the Society of Automotive Engineers, Committee D-2 is working to develop a classification for automotive greases.

The subgroup on gasoline is active in developing a standard method of testing gum stability of gasoline. Various accelerated oxidation tests have been studied and comparative data obtained from several co-operating laboratories. Based on this, the committee is developing an improved design of apparatus. The development of a uniform bomb test apparatus is a necessary step toward the study of the significance of oxidation test as regards storage. In this work consideration will also be given to the glass bomb (Voorhees) test with which an extensive amount of correlation work has been done. Another part of the program includes a consideration of the copper dish test, which, in spite of definite drawbacks, is used to considerable extent in evaluating stability.

All Wells in Oklahoma City Field Are Nearing Mechanical Lift Stage

By L. G. E. BIGNELL
Petroleum Engineering Editor



Skyline from north end of Oklahoma City field

It is reported that the Oklahoma City Field has produced a total of approximately 232,544,415 bbls. of oil from 1,050 wells since its discovery December 4, 1928. The major portion of this oil has been produced from the Wilcox zone, which now has an allowable of 123,592 bbls., but during August actually ran from the leases only 116,127 bbls. daily. This is an average daily shortage of 7,465 bbls. For the Simpson below Wilcox zone the August allowable was 38,000 bbls. daily and 33,708 bbls. was actually run, an underage of 4,202 bbls. daily. The Fault line zone of five wells was also short an average of 110 bbls. daily for August with allowables of 1,350 bbls. and the runs from leases averaging 1,240 bbls.

The operators in this field are all spending a lot of money and time in cleaning out their wells and it is estimated that at least 50 cleanout crews are now engaged in this work. The time required for cleaning out the holes varies from two or three days to several months and the material removed from the wells in the Wilcox zone also varies from a few barrels of sand and shale settlings to 100 or more barrels of debris. Some well owners report that they have lost as many as three bailers in the hole during former cleanout work and there are some wells with strings of cable tools in the bottom of the hole.

The cleanout work is being done by various methods. Cable tools, with steam engines furnishing the power, portable winch units, suction and sand pump type of bailers, and the latest and perhaps the most generally used form of cleanout is being done by the Smith-Dunn or Marietta gas method. This latter method was described at some length in the May 17 and July 12, 1934, issues of The Oil and Gas Journal.

In addition to removing large quantities of sand and other formation materials rotary mud left when the wells were completed has been removed by these various cleanout methods. This condition was probably due to the rules that existed in the Oklahoma City Field regarding allowable oil that could be produced while the well was being completed.

Prior to the enforcement of proration and the limiting of the amount of oil the field could produce it was common practice to flow a well wide open for a period deemed long enough to thoroughly clear all cuttings and loose formation material from the hole. This method of completion insured the removal of all rotary mud and cuttings and tended to establish channels of flow through the formation into the bottom of the hole.

It seems very evident now that the Oklahoma City Field has been harmed by the unnatural conditions imposed upon it, both with regard to rules for completing the wells and producing them. How much ultimate damage will result is very difficult to estimate as it will be hard to definitely determine what oil might have been recovered under other producing conditions.

Production Costs

The accompanying cost data are taken from a preliminary report by the Petroleum Administrative Board to Oil Administrator Harold L. Ickes, covering a survey of production costs that has been in progress since December 20, 1933. A summary of the full report is published on page 43 of The Oil and Gas Journal of September 27.

Water Movements

When this field was opened the several zones containing oil and gas were under formation pressures of approximately 2,660 pounds per square inch. This pressure was created largely by water found at approximately 5,400 feet below sea level. The water line has been assumed to have been practically uniform across the field. When the Arbuckle lime wells were drilled the holes were drilled too deep and salt water took those wells quickly. There were about 115 wells drilled in the Arbuckle zone and very few of them produce today. Those that do produce oil are not prorated and are permitted to secure all the oil they can by any method the operator desires to use.

Drilling in the Simpson below Wilcox zone followed the Arbuckle zone development and production was found in several sands in this zone. Water early made its appearance in some of the lower Simpson wells, largely because they were drilled too deep and penetrated into the Arbuckle lime. However, this zone did show water in wells that were not drilled too deep and the movement of this edge water through the Johnson sand was constant and recent water maps of the field show that practically every lower Simpson well in the north portion of that zone is producing water in varying quantities up to 95 per cent.

It is reported that in the lower Simpson zone the water movement has actually built up bottom hole pressures to as high as 1,000 pounds per square inch, which is much higher than registered in these wells a year ago.

The water drive in the Wilcox zone has been delayed. There are many reasons that may be assigned to this delayed movement of edgewater but it will always be difficult to prove any theories because complete data are not available to permit definite conclusions to be reached.

Last fall with the cleaning out of some of the Wilcox wells in the north end of the field preparatory to running tubing, salt water was reported produced with the oil through the tubing. Several wells had reported water before cleanout, in fact a few had apparently drilled into water, but there were few water wells in the Wilcox zone the first of this year.

However, water maps made since January, 1934, show that water has been entering the Wilcox sand and moving updip steadily. The August water map shows salt water in all portions of the Wilcox sand zone from the north to the southeast edge of the field.

With the intensive drilling campaign carried on upon small plots in Section 22 the water movement in the Wilcox sand there has been rapid. This section of Wilcox sand was relatively thin. The bottom of the holes were carried closer to the water level in an endeavor to get all of the oil possible in the shortest possible time. When this salt water broke through into the bottom of the hole it moved quickly through the formation and increased in volume until many of the operators with wells in that section are now fearful of the results.

From the rate of water movement observed in the lower Simpson formation and the spread of water in the Wilcox during the first eight months of this year it seems quite probable that practically the whole Wilcox sand zone will be producing salt water to some degree by January 1, 1935.

In the Seminole Field the appearance of salt water in the Wilcox sand wells did not prevent the production of oil. It did increase the expense of securing the oil, and in the Oklahoma City Field the problem of disposing of salt water will be one that the operators will be called upon to solve. It will be costly whatever method may be used to get rid of it.

Production Methods

The best method to be employed in securing the fluid from the wells in Oklahoma City, now that it is quite evident that appreciable quantities of salt water must be handled to secure the oil, is giving many operators much concern.

Taking formation pressures of 1,000 pounds reported to be created by the

Typical scene in Section 22, Oklahoma City field during drilling activities last year. Water has appeared in many of these wells recently

water movement within the Johnson sand in the lower Simpson zone as a gauge for fluid levels it is possible to predict that when the water has encroached into the Wilcox sand and built up pressures there also, the top of this fluid will stand about 2,000 feet above the bottom of the well. This will require that the oil and water be lifted by some mechanical means the remaining 4,500 feet to the surface.

In a general way the production problems of the field may be divided into four classes and the equipment best suited to each indicated in the following list:

1. Low formation pressure and small fluid volume—pumping.
2. Low formation pressure and large fluid volume—stage gas lift.
3. High formation pressure and small fluid volume—Hughes plunger lift.
4. High formation pressure and large fluid volume—gas lift.

A recent survey of the wells in the lower Simpson indicates that 16 are produced by the Hughes plunger lift; 63 are on the beam, 14 powered with electricity, 1 by steam and 25 by gas engines; 5 wells in this zone are produced by the Beardmore stage lift, and 6 are pumped with the Sullivan pneumatic cylinder lift; a total of 90.

The survey of production methods for the Wilcox zone has not been completed recently. However, most of these wells produce by gas lift or natural flow, either through tubing or casing.

Production Methods Known

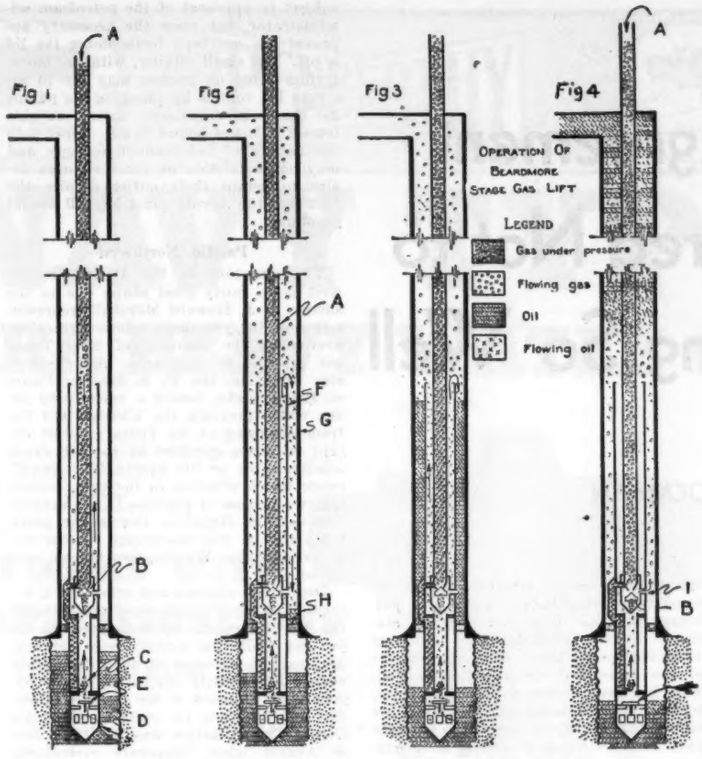
Most of the production methods listed above are known. The Beardmore stage lift is relatively new, however, and promises much for the future where gas is available for compression to produce deep wells, but the formations cannot withstand the high pressures necessary to lift the fluid from the bottom of the hole to the surface.

The mechanical device and process has been worked out by Herbert F. Beardmore, production engineer with the Indian Territory Illuminating Oil Co., and 11 units are in use in the Oklahoma City Field.

The development of this device started December, 1933, when it was recognized that some parts of the Oklahoma City Field formations would not withstand the high gas pressures necessary to supply sufficient energy to lift the fluid from the bottom of the 6,300 to 6,500-foot holes to the surface. One of these lifts has been in continuous operation since April 7. In this well there has been an average increase of from 218 bbls. on the gas lift to 700 bbls. daily maximum. This high rate of production was maintained for one week and the average daily rate of production over the entire five-month-and-three-week period that the stage gas lift has been in this well is 315 bbls. The well produced oil only.

The Beardmore stage gas lift has been developed to be used during the producing life of a well following the end of the straight gas lift period, or at a time when the well would ordinarily be produced by some mechanical method.

The oil is accumulated in a chamber set opposite the producing formation and then lifted to the surface by a charge of gas under high pressure admitted intermittently. The reservoir at the bottom of the well is filled with gas lifting the oil under approximately 25 pounds pressure, if the first stage lift is 600 feet, and then expelled this reservoir of oil from the well with 250 pounds of gas if the hole is approximately 6,000 feet deep. The accompanying sketch shows the principal features of this device.



Flow diagram of Beardmore stage gas lift

The Beardmore stage gas lift operates as follows: Figure 1—Gas under relatively low pressure is admitted to tubing (A) and diverted through nozzle (C) when valve (B) is held closed by spring beneath it. Oil and gas from formation entering strainer-anchor passes upward through valve (E) following path indicated by arrow (D).

Figure 2—Incoming oil and gas is assisted in flowing upward by nozzle (C) through space between pipes (A) and (F) and the oil spills over into the top of reservoir pipe (F), which is about 600 feet long in Oklahoma City Field wells, and accumulated in annular space between pipe (F) and well casing (G) and above the casing packer (H).

Figure 3—Flow continues by this method until about 15 or 20 bbls. of oil are collected in the annular space reservoir.

Figure 4—Gas under relative high pressure is then admitted through tubing (A) and opens valve (B) permitting gas to flow through opening (I) into the bottom of the annular reservoir full of oil and carries it to the surface. As gas charge escapes from tubing (A) the valve (E) is closed and the high-pressure gas cannot escape into formation. When intermitter closes at surface cycle is repeated.

Production Rate Decreasing

With low formation pressures, holes filled with settlings, salt water encroachment and relatively low gas-oil ratios many of the Wilcox zone wells are having a difficult time making their allowable. It is anticipated that some form of mechanical lift will be applied to most of these wells soon, the principal problem now facing the operators being the selection of the type of equipment that will give the most efficient service for the greatest length of time and produce this oil at the lowest cost.

There is still a large volume of oil to be removed from this field, but it will take a considerable time to produce it and future costs will be higher. Handling the salt water that will accompany the oil is still an unsolved problem for many operators. This will add to production costs.

BUYS CHOICE ACREAGE

BRADFORD, Pa., Oct. 1.—Abner H. Wiborg of Foster Brook has purchased 112 acres of choice Bradford Field oil land at State Line and Bells Camp from the George W. Crooks estate for $200,000.

Ickes Interprets Rules on Labor Provisions and on Stripper Wells

WASHINGTON, D. C., Oct. 1.—Secretary Ickes, oil administrator, has advised the Petroleum Labor Policy Board to hold public hearings to determine whether the labor provisions of the code should be reopened and revised, and what changes the board recommends.

No date has yet been set for this hearing, but it will probably be held in the very near future. Dates for two other hearings on the subject of labor have been set, however. On October 8, a hearing on wages for derrick and rig building workers in East Texas, Southwest Texas and the Gulf Coast areas will be held, and on October 4 a hearing has been called to consider a modification and/or a definition of the provisions of the code affecting labor on stripper wells.

An interpretation has been issued by Administrator Ickes, which is intended to clear up the confusion surrounding the meaning of that part of the sentence of the code relating to stripper well employes which states: "All other employes in these operations, except executives, supervisors, and their immediate staffs, and pumpers on stripper wells and employes on isolated properties, shall work not more than 40 hours in any one week, nor more than 72 hours in any two weeks, nor more than 16 hours in any two days."

This interpretation holds that pumpers on stripper wells are exempt from the maximum hour provisions of the code, but, contrary to the views taken by the majority of the industry, such employes are not exempted from the minimum wage provisions. Stripper wells are defined, for the purposes of this section, as being wells of such low gross revenue and of such small production that the regular labor provisions of the code, as to maximum hours and minimum wages, cannot be carried out and leave a reasonable margin for the operator.

Administrator Ickes has also approved some interpretations of his May 21, 1934, order, which attempted to adjust differentials in wage rates for skilled jobs and minimum rates established under the code for common labor. At the same time he extended the time when these adjusted rates shall be made effective until October 19, 1934.

The interpretations provide that the differential order shall apply to refinery and pipe line operations, and to production operations, including employes in natural gasoline manufacturing, and to employes on stripper wells where the working hours have been reduced under the provisions of the code, but not to stripper well operations where hours have not been reduced. This section does not apply to derrick, rig building or drilling operations, a separate order having been issued covering occupations in these branches of the industry.

It was provided in the original order that any dispute arising from the adjustments ordered which could not be settled by mutual agreement should be referred to the Petroleum Labor Policy Board for settlement not later than August 1, 1934. The revision, which extends the effective date to October 19, however, extends the provision regarding disputes between employer and employe to November 19, 1934.

Such disputes arising among employer groups in determining prevailing adjusted hourly rates in the immediate operating areas shall be referred for settlement to the regional labor committees of the Planning and Coordination Committee for determination, and referred to the Petroleum Labor Policy Board only in case an appeal from the determination of the regional labor committee is properly filed.

Any adjustments made in pursuance of the order of the administrator are minimum differentials, and it is provided that these adjustments shall not be made the basis, or the occasion, for a lowering of differentials in excess of the minimum, nor for a lowering of rates which were in effect on May 21, 1934.

UNIT COST OF PRODUCTION AND SALES VALUE, OKLAHOMA CITY POOL

Item—	1931	1932	First 9 mos., 1933	Last 3 mos., 1933	1933	3-yr. weighted average
Range of gravity	36-41	36-42	34-42	36-42	34-42	.....
Range of production per well per day (bbls.)	24 5-1,032.0	11.8-275.0	15.6-736 6	15.6-736.6	15.6-736.6	.....
Production (company interest) (bbls.)	25,778,791	17,728,513	29,274,070	9,202,110	38,476,180	27,327,828
Depletion	$0.079	$0.074	$0.073	$0.079	$0.075	$0.076
Depreciation	.103	.140	.122	.113	.120	.119
Amortization on intangible development cost	.107	.132	.127	.123	.126	121
Operating cost	112	.172	.095	.152	.108	.123
General overhead and administrative	.411	.304	.189	.182	.187	.283
Total cost	$0.812	$0 822	$0.606	$0 649	$0 616	$0.722
Deduct: Gas sales and miscellaneous revenues	.020	.019	.014	.034	.018	.019
Net cost	.792	.803	.592	.615	.598	.703
Interest on invested capital	.142	.222	.107	.105	.106	143
Net cost, including capital	.934	1 025	.699	.720	.704	.846
Average selling price	.648	.910	.558	1.033	.671	.716
Range of costs:						
Lowest	0.24	0.31	0.10	0.23	0.10	.....
Highest	51.26	14.34	1.87	2.86	2.84	.....

California Agreement Now Declared Not to Be Working So Well

By L. P. STOCKMAN

LOS ANGELES, Calif., Oct. 1.—Marketing conditions on the Pacific Coast, although theoretically stabilized through operations of the Pacific Coast Petroleum Agency, are far from being settled, and while prices are substantially higher than those prevailing before the marketing agreement became effective, marketers are confronted with a number of perplexing problems. A large group of service station operators have assumed a belligerent attitude because of decreased gallonage and insist they must be allowed to retail gasoline 1 cent below the price of third grade gasoline. In connection with this demand the Southern California Petroleum Dealer's Association has submitted a petition to the petroleum administrator to the effect that the association "did not consent, employ, elect or authorize any group or individual to inform the administrator that it has endorsed the marketing agreement; that the association does not approve the marketing agreement and petitions the selection of an impartial committee for the purpose of permitting retail dealers to enter into negotiations with the oil companies with a view of protecting small enterprises. There has been a tremendous drop in gallonage at independent pumps due to the level price set up for major and independent gasolines so that independent pumps today, even with a 3-cent margin, are in far worse condition than they were before the agreement took effect."

Problem Receives Attention

This problem has received considerable attention from members of the Pacific Coast Petroleum Agency and affiliated refiners, but they have been unable to agree on just what can be done as the Department of Justice insisted that all gasoline of similar quality must be sold at the same price. There has been some discussion about abandonment of third grade gasoline by major companies but it is safe to say this proposed policy will not be adopted because one or two of the major companies are committed to the policy of meeting competition on a price basis. This is one of the basic reasons for the last gasoline price war, as one of the companies insisted on meeting competitive prices of independent marketers, with the result that every marketer was burned before the conflagration was brought under control. To carry out this policy the company in question must continue to carry third grade gasoline.

Competitive Market

During the past several weeks, the refined oil market has been alternately weak and strong, due to indiscriminate price cutting by service station operators who have demanded concessions to replace lost gallonage. Price cutting was started to command attention and at the same time bring back some of the gallonage that had been lost to other stations. Price cutting is again assuming alarming proportions despite attempts of the agency to correct the situation. This has been rather difficult, however, because there is some talk of connivance on the part of some refiners who it seems have been chiseling to retain their outlets and by doing so maintain their respective quotas.

Scramble for Outlets

In addition to price cutting of regular gasolines, the market is reflecting the sale of motor fuel which consists of a mixture of gasoline, kerosene, natural gasoline and distillate, the percentage of each depending upon how close the marketer has to bid for the business. In addition to this there is a mild scramble on to secure additional outlets due to expiration of the moratorium on pumps. The Pacific Coast Petroleum Agency and its refinery members have endeavored to stabilize matters by mutually agreeing to an extension of the moratorium without much success. The agreement was made subject to approval of the petroleum administrator, but since the necessary approval has not been forthcoming the lid is off. The small retailer, with the moratorium lifted on pumps, may try to increase his volume by changing his pumps to those he considers more movable brands. This is bound to cut deeper into the outlets of independent refiners and may cause friction as some refiners desire to retain their outlet despite the fact that the Agency must buy all unsold gasoline.

Pacific Northwest

The situation in the Pacific Northwest is in fairly good shape due to the success of J. Howard Marshall, representative of the petroleum administrator, in preventing the dumping of East Texas hot gasoline in that area. After extensive litigation, the U. S. District Court at Boise, Idaho, issued a restraining order which prevents the Fletcher Oil Co. from disposing of its Texas gasoline except on terms specified by the petroleum administrator or his agents. The significance which attaches to the case, involving two cargoes of gasoline in the tankers Papoose and Republic, lies in the possibility that it will discourage further importations into Washington, Oregon and Idaho.

Demurrage charges and other costs, according to representations of the Fletcher Oil Co. in court, approximated $3,000 per day while the tankers were detained pending the outcome of litigation. Both vessels immediately discharged their cargoes upon issuance of the restraining order and are now en route to the East Coast. This litigation was instituted late in August when temporary restraining orders were issued by the Federal Court at Seattle, Wash. These orders were dissolved September 6, because the court ruled it lacked jurisdiction, but Mr. Marshall moved over to Boise, Idaho, and secured another restraining order the next day. Final action, which permitted discharge of the tankers under restrictions, was effected September 18, almost a month after initiation of the litigation. Settlement of the case will preclude price cutting as this was one of the main contentions.

Marketing Agency

Future status of the Pacific Coast Petroleum Agency seems to be rather in doubt at the present time according to a general survey. The Agency is doing a good job but there seems to be some criticism regarding its operation. Edwin W. Pauley, president of the Petrol Corp., says, "the Pacific Coast Petroleum Agency has not worked out as satisfactory as anticipated. This has been due to the lack of organization on the part of the Government to enforce provisions of the agreement upon signers of the contract. Furthermore, the differential between the price of refined oil products and that of crude oil has not been sufficiently large to compensate companies, such as my own, for giving up the many advantages which we had prior to the signing of this agreement.

"The differential mentioned above will of necessity have to be increased or the agency will not, in my opinion, last even to the extent of its present time limit. The small dealer is suffering under this agreement as the price maintained by all companies is the same and in most instances his station is located unfavorably, not elaborate in its structure and handicapped throughout, thus throwing business to the major stations on an equal price basis. With respect to the fact that our service stations are overbuilt, I agree with you. However, I cannot afford to lose the independent dealer, unless the major marketing companies are willing to release their leasing agencies, subsidized and controlled outlets. If they are willing to do this, the independent would need no price differential to merchandise his products to the public and a uniform price could be maintained with fairness to all. The average price of casinghead has been around 6¼ cents to 6½ cents per gallon."

Agency Prices

In conformity with provisions of the marketing agreement, the Pacific Coast Petroleum Agency has posted prices covering gas oil, engine distilate and several grades of fuel oil. The prices are subject to change without notice and in the case of fuel oil the Agency will only purchase it provided it is contracted for a period of six months with the option of an additional six months. The latest schedule of prices at which the agency will purchase the several commodities is a revision of the original price list issued a short time ago. Kerosene distillate will be purchased at the rate of $1.20 per barrel at Los Angeles Basin refineries and at $1.10 per barrel at refineries in the San Joaquin Valley and in the Coastal area.

The Agency will buy straightrun gas oil from members at the rate of $1 per barrel in the Los Angeles Basin and 90 cents per barrel in the San Joaquin Valley and Coastal districts. Light fuel, minimum gravity 16.5 degrees, is quoted at 63 cents per barrel at Los Angeles Basin refineries and at 57 cents in San Joaquin Valley and Coastal refineries. Heavy fuel oil will be purchased at 58 cents per barrel in Los Angeles Basin and at 53 cents in the other two refining centers. High sulphur fuel oil, where sulphur must be in excess of 1.5 per cent, is quoted at 53 cents at Los Angeles Basin refineries and at 48 cents in plants located in San Joaquin Valley and in the Coastal region. A deduction of 2 cents per barrel for each 0.1 per cent or fraction thereof will be made for sulphur in excess of the specifications established for fuel oil.

Administrator's Report on Crude Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ended September 22 totaled 332,975,000 bbls., a decrease of 439,000 bbls. from the total of 333,414,000 bbls. on hand at the end of the preceding week, Harold L. Ickes, Secretary of the Interior and administrator of the code of fair competition for the petroleum industry, announced today. This decrease, which followed a decline of 1,071,000 bbls. during the previous week, comprised a decrease of 540,000 bbls. in stocks of domestic crude oil and a gain of 101,000 bbls. in stocks of foreign crude.

According to current reports of the industry for the week ended September 22, in comparison with those for the previous week, daily and crude production and runs to stills declined about 40,000 and 25,000 bbls., respectively. Imports of crude were 61,000 bbls. daily, or materially below the level of the previous week. The approximate daily average balance of crude oil for the week ended September 22 was as follows (barrels): Production, 2,510,000; imports, 61,000; decrease in stocks, 63,000, equals runs to stills, 2,485,000; exports, losses, etc., 149,000.

CRUDE PETROLEUM STOCKS REPORTED BY COMPANIES HOLDING 100,000 BBLS. OR MORE

Grade of crude oil—	Stocks held by reporting companies: Sept. 15, 1934 (bbls.)	Sept. 22, 1934 (bbls.)	Change from Sept. 15, 1934 (bbls.)
Pennsylvania Grade	4,723,000	4,641,000	—82,000
Other Appalachian, including Kentucky	1,124,000	1,116,000	—8,000
Lima-Northeast Indiana-Michigan	1,356,000	1,361,000	+5,000
Illinois-Southwest Indiana	11,448,000	11,503,000	+55,000
North Louisiana and Arkansas	10,338,000	10,403,000	+65,000
West Texas and Southeast New Mexico	29,480,000	29,557,000	+77,000
East Texas	35,520,000	35,159,000	—361,000
Other Mid-Continent	157,179,000	156,732,000	—447,000
Gulf Coast	18,094,000	18,196,000	+102,000
Rocky Mountain	27,697,000	27,646,000	—51,000
California	33,675,000	33,780,000	+105,000
Total domestic crude	330,634,000	330,094,000	—540,000
Foreign crude	2,780,000	2,881,000	+101,000
Total crude	333,414,000	332,975,000	—439,000

T. K. HARNSBERGER DIES

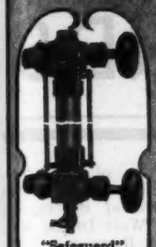
Thomas K. Harnsberger, 46 years old, formerly chief geologist for the Shell Petroleum Corp., in the Tulsa area, died last week at Highland Park, Ill., of heart disease. He had been forced to retire three years ago by a chronic heart ailment.

A native of Virginia, Mr. Harnsberger became associated with the Shell more than 15 years ago. After working in South America and in western states, he came to Tulsa in 1922. He had traveled recently in search of health. In addition to a trip to Germany, he had spent last winter at Phoenix, Ariz., and this summer went to Highland Park.

Hydraulic Ejector

PENBERTHY PRODUCTS

Steam Ejector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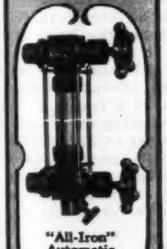
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NEWS FROM FOREIGN LANDS

MEXICO

Another step in the settlement of a suit which has been pending in the Mexican courts for approximately 10 years was taken last week when the Mexican Superior Tribunal refused to recognize the contentions of the Mexican Eagle Oil Co. (Shell) and rendered judgment against the Shell unit for 20,000,000 pesos to the Compania Petrolera Comercial, S.A. The judgment covers payment for oil produced on Lot 115 Amatlan in the State of Vera Cruz to which the plaintiff company claims title. Final decision in the case rests with the Mexican Supreme Court where the case is now pending.

The case which has attracted wide attention in Mexican oil circles dates back to 1912 when Jose Anacleto Morelos as owner of the lot entered into a lease contract with Ralph Cullinan for the exclusive exploration and exploitation of tract. Later the same year the tract was transferred to the Mexican Eagle company.

The titles of Jose Anacleto Morelos were acquired by purchase in 1901 from a party by the name of Emilio Zamora who had inherited the property on the death of his father, Antonio Zamora, in 1899. The various properties of the latter were distributed among all his heirs by mutual consent and this distribution was duly ratified by them, although, as was customary in these outlying regions the formal interstate and judicial proceedings as laid down in the law were not gone through. The lease with the Mexican Eagle company was also formally ratified by all the heirs including the father of the present claimant who was a minor at that time.

During 1918 and 1919 the property was developed and 6,725,760 bbls. were secured, the royalty on which was paid to Jose Anacleto Morelos under the contract executed with him. Only one well was drilled.

No suits were involved until 1925 when a claimant named Agustin Hermas Martinez appeared, who claimed to be the son of a woman who was a daughter of Antonio Zamora, the original owner of the lot. The claimant succeeded in having a local court in a small outlying town declare him the sole heir of the estate. The claimant in the meanwhile ceded 75 per cent of his claim to his advisors who organized a small company known as Montero, Reyes y Silva, the sole purpose of which was to obtain compensation from the Mexican Eagle Oil Co. in respect to the oil already produced by the lease.

At the suggestion of the Mexican Eagle company the entire matter was finally submitted to judicial arbitration as provided for by Mexican law and a judge-arbitrator appointed. It is now claimed that while this action was pending the claimants endeavored to evade the possible unfavorable decision through a sale of the claims to the company known as the Compana Petrolera Comercial. While the arbitration suit was still pending, the new owners of the claim presented a formal demand before the Third Civil Court of the federal district against the Mexican Eagle company asking judgment for 20,000,000 pesos to cover the value of the oil produced by the tract. While this was pending the arbitration suit was finally decided in favor of the Mexican Eagle company in January, 1931.

The judgment was duly passed to the civil courts for execution against which the Compania Petrolera Comercial, S.A., which appealed on various grounds alleging that the decision of the judge-arbitrator had not been rendered within the term fixed by the arbitration agreement and that further they were not parties to this arbitration agreement. The Supreme Court decided in favor of the Mexican Eagle in regard to the first point and decision of the judge-arbitrator was again returned to the lower court for execution. The second point was not decided at the time and this is now pending before the Supreme Court on petition of the Compania Petrolera Comercial, S.A.

Concurrently with these arbitration proceedings the suit before the Third Civil Court was continued and the plaintiff last month succeeded in obtaining judgment in its favor. In the meanwhile the issues before the Supreme Court are still pending. It is on the decision of the latter that the Mexican Eagle company expects to have its entire position vindicated with final judgment in its favor.

SWEDEN

Effective October 1 all importers and distributors of gasoline in Sweden were required to mix alcohol with their gasoline to secure a blended motor fuel which will be purchased by consumers in Sweden. All the details of the plan have not been out but it is planned to blend off sufficient alcohol to take care of the sulphite alcohol production which is a by-product of the pulp industry, one of the principal industries of Sweden. The present alcohol production is approximately 4,500,000 gallons annually and it is planned to use blends containing up to 25 per cent alcohol.

The blending of this product which costs considerable more than gasoline will raise the retail prices of motor fuel in Sweden. It is planned to have the motor fuel which is refined 100 per cent from crude oil sell at the same price as alcohol blend.

U. S. S. R.

The exports of crude oil from the U.S. S.R. have shown a small increase this year over last year but exports of refinery products have greatly decreased, according to official reports. For the first six months of this year exports totaled 2,136,000 tons, which compares with 2,569,800 tons for the same period in 1933. The following table gives exports for the first six months of 1934 and 1933 (data in tons):

	1934	1933
Crude oil	104,600	92,200
Gasoline	660,280	775,600
Kerosene	213,700	354,600
Gas oil	317,800	333,400
Lubricating oil	122,800	131,300
Fuel oil and Diesel oil	691,300	865,500

The U.S.S.R. exports have declined to practically all countries as shown in the following table giving the exports for the first six months of 1934 and 1933 (data in tons):

	1934	1933
France	400,400	381,500
Italy	354,100	530,700
Spain	261,400	178,700
British Empire	254,600	301,700
Germany	239,300	280,000
Sweden	96,400	131,600
Belgium	88,400	136,900
Denmark	47,800	60,500
South America	37,000	44,900
China	31,400	48,900

GERMANY

The improvement in the German automotive market has brought a substantial increase in gasoline imports according to an official report. During the first seven months of this year a total of 4,688,103 bbls. of crude oil were imported into Germany, a gain of 910,063 bbls., or almost 25 per cent when compared with the total for the same period in 1933. The value of the gasoline imported the first seven months of this year was 38,250,000 marks against 37,250,000 marks in the first seven months of last year. The chief countries of origin during the first seven months of the current year were the Dutch West Indies, Russia, Persia, Peru, and Rumania. Noteworthy in this trade, the report points out, are the heavy increases in imports from the Dutch West Indies and Peru and the marked decline in imports from the United States.

ITALY

Decision in regard to the construction of refineries in Italy are expected in the next 30 days in the case of two or three companies. The Italian government has issued regulations which will govern the licensing companies which build refineries and starting October 15, companies can make application for licenses.

Under the new arrangement, distributors of petroleum products in Italy which build and operate refineries in that country, will have an important advantage over companies which import their products from outside the refineries. Certain concessions are to be given in the matter of taxes on finished products with crude oil to be imported duty free. The Italian plan is similar to that of the French government which has resulted in the construction of several refineries in France over the past three years so that at the present time, approximately 50 per cent of the petroleum products consumed in France are refined at plants located in that country.

The Standard of New Jersey, Royal Dutch-Shell, the Texas Co., Anglo-Persian and Socony-Vacuum through subsidiary interests, are among the important distributors in Italy. It is estimated that refineries having a total capacity of approximately 30,000 bbls. of crude oil daily will be built in Italy as a result of the new regulations representing an expenditure of from $15,000,000 to $20,000,000. The regulations require capacities in excess of current requirements with other provisions which will require considerable storage facilities for crude oil and refinery products.

FRANCE

French official reports continue to show a decline in imports of finished petroleum products with a corresponding increase in imports of crude oil. The latter is needed to furnish charging stocks for the constantly increasing capacity of French refineries. The following table gives the imports for the first seven months of 1934 and 1933 (data in tons):

	1934	1933
Crude oil	2,293,770	1,376,300
Kerosene	25,600	54,000
Gasoline	662,762	1,035,840
Lubricating oil	99,260	112,500
Gas oil	165,500	214,200
Fuel oil	188,580	375,500
Road oil	28,600	51,700
Total	3,487,500	3,235,000

VENEZUELA

Crude oil production in August totaled 12,233,000 bbls. according to preliminary figures. This average of 394,600 bbls. daily is the largest of any month this year and represents a gain of 18.5 per cent over August, 1933.

Accumulative figures for the first eight months of 1934 show that the Venezuelan crude oil production totaled 89,511,813 bbls., a gain of 15 per cent over the same period in 1933. The subsidiaries of the Royal Dutch-Shell, Standard of New Jersey and Gulf Oil Corp., which have the bulk of the production in Venezuela, have all shared in the increases this year.

—Fotairo, Ltd.

Aerial view of Stanlow oil docks at Ellesmere Port, between the Mersey estuary and the Manchester (England) ship canal which separates the docks from the oil company installations on the opposite bank, the oil being discharged through pipes running through a subway beneath the bed of the canal

Manchester is one of the foremost ports of the United Kingdom, and each year is steadily adding to its importance as an importing and distributing center. The progress made during the past quarter of a century has in a large measure been due to the assistance the Manchester ship canal management has extended to the oil-importing companies in their quest for storage extension or the establishment of new facilities. The total bulk oil storage facilities adjacent to the docks at present are approximately 55,000,000 gallons, of which the Shell-Mex and B.P. Co. owns in excess of 22,000,000 gallons. At the comparatively new port at Ellesmere there is further storage for approximately 81,000,000 gallons of petroleum spirit and other oils, so that the port of Manchester today has storage facilities for some 500,000 tons. But Manchester's total oil storage figures will shortly be increased, for it is expected that the new refinery of the Lobitos Oilfields, Ltd., at Ellesmere Port is about to be officially opened.

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Federal Futility

Two major developments during the week demonstrated anew the futility of Federal administration of the oil industry.

The Program Committee announced its decision to suspend for the present operations under its gasoline buying plan "pending action on the part of the enforcement agencies in the stopping of shipments of all gasoline produced from illegal crude."

The Department of Justice filed a memorandum in the United States Supreme Court stating it did not intend to "prosecute producers of oil in Texas for exceeding the quota prior to September 25."

The reason given for abandonment of the gasoline buying plan is a damning indictment of the enforcement agencies. The committee has tired of waiting for them to enforce the law.

It has long been evident that the sole effect of the gasoline buying plan in East Texas was in enabling refineries in the field to run full time. Enforcement remained as ineffective as ever.

The dismissal of the prosecution before the United States Supreme Court will be taken as confirming the inference that the administration fears to have the constitutionality of the national recovery act submitted to the final test.

The technicality used, the clerical omission of the clause in the oil code declaring overproduction a violation of the law, is a severe reflection upon the administration, not for having made the omission, but for not having discovered it all these months since the suit has been in the court. Where were the eyes of all the legal talent of the Petroleum Administration and Department of Justice all that time?

Its discovery at this late day and its use in postponing a judicial determination of the issue naturally provoke comment.

Meantime, while the Program Committee is indicting the enforcement agencies for failure to act, and the administration's legal staff is dismissing instead of prosecuting cases, the courts are plainly pointing to a constitutional power of enforcement which the Federal oil administration is neglecting.

The President is authorized to prohibit the transportation in interstate and foreign commerce of petroleum and its products "produced or withdrawn from storage in excess of the amount permitted by any state law, regulation or order by any board, commission, officer or duly authorized agency of a state."

The President issued such a prohibition on July 11, 1933, and three days later authorized the Secretary of the Interior to exercise all the powers vested in the President for enforcing that paragraph.

What has the oil administration done with these powers? The courts have held that "the power of the central government to control the transportation in interstate commerce of 'hot' oil is clear."

The Texas Petroleum Council has wired the oil administrator that "if the Interior Department cannot enforce laws of undoubted validity with respect to interstate oil it would be useless to vest the Federal government with control over interstate and intrastate oil."

The Texas Railroad Commission has challenged the Federal administration to bring suits immediately to halt interstate movement of excess oil.

With effective Federal control of interstate movement East Texas would have to take care of its excess production. Experience has shown that any time East Texas feared it could not get rid of its oil outside the state it slowed down its operations within a week because it lacked storage.

But it always found an outlet and resumed. If the Federal administration had exercised its power to prohibit interstate transportation in excess of state regulations there could have been no outlet.

The respective constitutional powers of the Federal government and of the states are specifically recognized in the provisions authorizing the President to prohibit the transportation in interstate commerce of oil or products produced in excess of the amount permitted by the state.

There is one simple, effective and constitutional course to follow —an interstate compact which would invoke the respective powers of the Federal government and of the states in regulating oil production, the states to agree upon equitable production and the Federal government to prohibit shipments in excess of state regulations.

It is very clear from the interview which Attorney General Allred, Democratic nominee for governor of Texas, gave a special representative of The Oil and Gas Journal, at Austin, that Texas is determined to stand upon its own laws and constitutional rights in opposing even temporary Federal control of the oil industry. The opposition of the Texas delegation in Congress killed the Disney bill in the last session although many of the industry at that time favored it under the emotional stress of the times. Subsequent sober thought and illumination as to the trend at Washington towards autocratic Federal control of the whole industry in defiance of all constitutional rights and individual liberties has provoked a revulsion which now welcomes the protesting stands of Nominee Allred and of Nominee Marland in Oklahoma.

To Mr. Ickes' jibe that the interstate compact was tried and failed it need only be said that in the case of the Oil States Advisory Committee that abortive effort was not an interstate compact but an arbitrary assumption of power foredoomed to failure.

The essence of an interstate compact, as in all instances involving boundaries, waterways, fishing rights, bridges, etc., is mutual interest and mutual benefits dependent upon fulfillment of the compact. That is particularly the case in regulation of oil production.

Each state will benefit itself by regulating production to the common demand and will injure itself by overproduction which will force it to sacrifice its own product and thereby reduce its revenue both to its own people and to its own treasury.

With the Federal government limited by the constitution to control interstate transportation of oil produced in excess of state regulations what other form of effective control can be expected?

We have to go back to the states for constitutional control of production anyway and if the states alone have control of production then the effort must be made to have the oil producing states come together on a compact that will harmonize with existing demand.

It is evident that the states cannot be browbeaten into surrendering their constitutional rights. It is evident that the Federal administration has no authority under the constitution to usurp those rights.

We will get out from under East Texas some time but once buried under Federal control we shall be entombed for all time.

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Sudden Suspension of Gasoline Purchasing Plan Shifts Market Scenery in Group 3 Area

By T. F. SMILEY

There was shifting of scenery in the Oklahoma (Group 3) gasoline market with the announcement from Washington last Saturday that the purchasing plan, long delayed and just being put into operation, had been discontinued "pending action on the part of enforcement agencies in the stopping of shipments of all gasoline produced from illegal crude."

Various considerations entered into the decision of the Program Committee to take this step, but the central one was the futility of trying to stabilize the motor fuel market by a device which not only created a fictitious price structure, but invited increased production of the hot oil it was designed to stop.

Some Contracts Already Signed

It was reported that approximately 50 per cent of the East Texas refiners had accepted allocations for crude runs and gasoline production. Of this number a reported 35 per cent (on the basis of plant capacity) had consented to sign the Ickes purchase agreement and contract, which called for 4 cents a gallon during the remainder of September for low octane U. S. Motor material and 5 cents beginning October 1.

According to the statement released by the Program Committee, "all contracts that have been made will be carried through and the committee's inspecting force will continue its duties."

The precise number of contracts is not generally known. Some of them are understood to have been signed by sellers but failed to receive the signatures of the buyers.

In view of the fact that the material for which majors have agreed to pay 5 cents could be bought this week for half that price some market observers found themselves wondering if the contracts would be kept. It was pointed out that the contracts were signed in the expectation that virtually all the refiners in the East Texas area would subscribe to the new plan, but that instead of this being done the whole purchasing program had been dropped with a relatively small number of the East Texas refiners enrolled, leaving buyers under the 5-cent contracts at a disadvantage with competitors who had not thus bound themselves.

Hope for Drying Up of Hot Gasoline

The Program Committee's statement expressed the hope that government enforcement agencies would rapidly demonstrate that they are "definitely drying up hot gasoline," but it was difficult to find anybody outside the committee who shared this feeling of hopefulness.

During the operation of the first buying plan, covering a period of about two months, crude runs to East Texas refineries are estimated to have doubled for the simple reason that the buying plan put a premium on the production and processing of illegal oil. Efforts to stop the flow of hot oil were ineffective, sometimes farcical. Reports were heard this week that a new and vigorous crusade against code violators was to be launched, but as recent oil history is strewn with the decaying remains of new and vigorous crusades, these reports were received without acclaim.

Many sales of low octane material were made last Saturday at 2½ cents resale. These were largely the result of accumulated orders which had been held back in the belief that lower prices might be reached. The weak state of the market was demonstrated by the fact that the heavy buying on Saturday did not have the effect of raising quotations. Its only noticeable result was an extremely slow market at the opening of the present week owing to demands having been filled for the time being and to a growing feeling of uncertainty concerning trends. Virtually all the Saturday buying was for immediate shipment. There were scattered sales Monday and Tuesday at 2½ cents, with signs of willingness on the part of some refiners to part with their material at 2⅝ cents.

Prices Out of Alignment

Group 3 quotations on gasoline presented an unusual lack of alignment this week as between low-octane and middle-octane material. Throughout the summer most of the gasoline moving out of East Texas was commonly reported to have been made from illegal oil. Nevertheless the "official" prices were those based on gasoline supposed to have been made from legally produced crude, and these were about a half-cent higher than the prices actually ruling. With the sudden suspension of the buying plan as a factor the distinction between the hot and cold varieties of motor fuel has vanished and the spot market is the one created by sales out of East Texas, regardless of the source of the crude used.

As East Texas competition is almost entirely in the low-octane material the prices on this grade are subjected to greater pressure than are the prices on the higher octanes. Furthermore, there

(Continued on Page 31)

Refined Oil Market Barometer

An irregular gasoline market prevailed in most areas as a result of suspension of the purchasing program. This action increased offerings in East Texas, and as that area affects motor fuel markets throughout the country east of the Rockies, there was widespread unsteadiness. Marketers evinced a disposition to make few commitments till the confusing situation now existing is cleared up. Changes in other refined products were for the most part seasonal.

Mid-Continent.—Gasoline weak. Naturals steady. Kerosene down. Furnace oils and fuels off. Wax strong.

East Coast.—Fuel oils weak. Gasoline unsettled. Kerosene in demand. Lubricants slow.

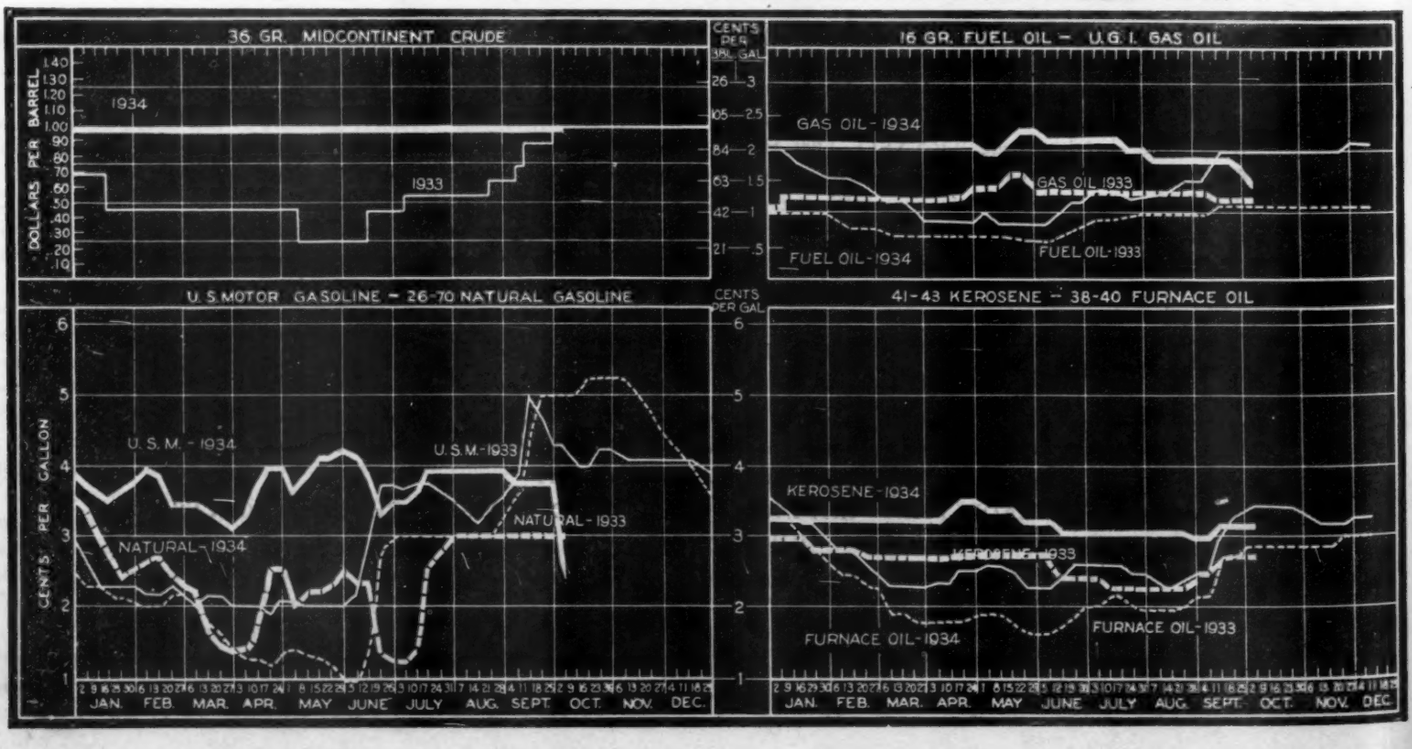
Gulf Coast.—Gasoline weak and uncertain. Gas-oil cracking stock soft but distillates firm. Lubricants steady.

Pennsylvania.—Markets in all products colorless, with prices unchanged.

California.—Federal Court order prevents consignee of Texas gasoline from cutting prices in Washington and Idaho. No price changes.

Chicago.—Gasoline irregular and easy, buying slow. Heating oils steady. Naphthas dull.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Declines in the Prices of Fuel Oils and Gasoline Mark Week in Eastern Coast Refinery Trade

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, Oct. 1.—Further reductions in tank car prices on most grades of distillate, gas oil and overhead fuel oil and additional scattered declines in gasoline tank wagon and service station prices were important developments of the past week in eastern refinery markets. The reductions in the products used as fuels in most cases were one-fourth cent per gallon, making a total of one-half cent over the last two weeks.

Tank car prices made effective the past week by the Standard Oil Co. of New Jersey were as follows: New York, effective September 25, distillate fuel oil, gas oil, Essoheat medium distillate, Essoheat heavy distillate, Diesel fuel oil (shore plants), 4½ cents per gallon; New York, effective September 22, industrial fuel oils, 4 cents; Baltimore and Norfolk, September 22, 24 plus fuel and industrial fuel oil, 4¼ cents; distillate fuel oil, gas oil, medium Essoheat, oil fuel No. 4 and Diesel fuel oil, 4¾ cents; Baltimore, Norfolk and Charleston, S. C., September 26, 5¼ cents. In the above price lists 24 plus fuel oil is not quoted in Baltimore, and industrial fuel oil and oil fuel No. 4 is not quoted in Norfolk.

The reductions in all cases amount to one-fourth cent with the exception of the industrial fuel oil in New York, which was reduced one-half cent because this product was not lowered the week before when the other grades mentioned were reduced the first one-fourth cent. Prices in Charleston, S. C., were not changed last week.

The foregoing prices are representative of the quotations of other major companies that have products to sell at these points. The Essoheat medium is a branded product sold by the New Jersey Standard which has the specifications of the No. 2 furnace oil, and Essoheat heavy corresponds to the No. 4 furnace oil. The industrial fuel oil now selling at 4 cents in tank car lots in New York is an overhead product with a gravity around 20 degrees A.P.I.

It is not believed that any additional changes will be made in these products in the immediate future at least, with many predicting that these levels will continue in effect through the fall and winter months. The reductions in effect meet the quotations of several smaller sellers who never did advance their quotations last summer when general increases were made effective by most of the major refiners. The latter at the time the increases were announced believed that the higher levels were justified and there are those who still feel that later in the year shortages will develop.

BUNKER PRICES DOWN

All of the major refiners and distributors of bunker fuel oils in this territory late today had met the 15 cents per barrel reduction in the Bunker C grade. The new price is $1.15 per barrel plus 5 cents lightcrage charge at New York Harbor effective October 1. The same price schedule is effective at Norfolk and Baltimore with a $1.10 price at Charleston. The last previous change in the New York price was March 21 when the Standard Oil Co. of New Jersey and other large refiners advanced the price from $1.20 to $1.30.

The latter price culminated a steady increase in quotations since March 25, 1932, when the price was advanced from 60 to 65 cents per barrel.

The decline effective today has been expected for some time and reflects the fact that supplies are greater at Atlantic Seaboard and Gulf Coast points than they were a year ago with lower prices prevailing at many foreign bunkering points. It was also announced today that the Bunker C grade at Gulf Coast points would be reduced to $1 per barrel.

Tank Wagon Prices

So far tank wagon prices on furnace oils have not been reduced in line with the tank car reductions in metropolitan New York and New Jersey. The prevailing prices on tank wagon deliveries are 8½ cents for the No. 1 grade, 7 cents for the No. 2 grade and 6½ cents for the No. 4 grade. Jobbers of these products have maintained that they were entitled to a wider spread to cover their costs plus a profit in distributing these oils to consumers. Last summer representatives of these jobbers made formal complaints to code authorities in Washington asking for the wider spreads. The attitude of the larger refiners is that the distributing end should be allowed the additional half cent with tank wagon prices to remain unchanged. It remains to be seen whether the distributors will take advantage of this situation and maintain present market levels or start cutting prices and bring about a competitive situation which will necessitate a general lowering of quotations.

Outside competitive conditions enter the situation in the case of the bunker fuels and the Diesel oils. The production of these fuels has increased in South America, West India, Mexico and Rumania. The import tax of 21 cents per barrel on crude oil and fuel oil in this country enters into this picture, emphasizing the trend which has caused more bunkering to be done at ports outside the United States. It is also said that more fuel oil will be available at European points in the near future due to the availability of Iraq crude oil. One sales manager points out that prices here must meet these competitive conditions in the marine business and he predicts lower quotations in the near future. He quotes recent spot crude prices in Mexico, Venezuela, Iraq and Rumania in comparison with quotations on East Texas crude oil at the Gulf Coast to show the strong competitive position of heavy fuels coming from these foreign crudes.

Available information also shows that stocks of the heavier fuels at East Coast and Gulf Coast refineries are heavier than they were a year ago. Owing to this situation it is predicted that it will not be necessary to bring as much crude oil from California the coming year as has been the case over the past year. Last year one of the largest factors in this section bought 10,000,000 bbls. of California fuel oil for shipment to the Atlantic Seaboard to supplement supplies available from East Coast and Gulf Coast refineries. Deliveries are still being made on this contract.

Gasoline

There were two opposing developments in the gasoline market over the past week. On the weak side there were additional reductions in gasoline tank wagon and service station prices in New York and New England. Up-state prices in New York were reduced one-half to 1 cent per gallon at important consuming points, and scattered reductions also were made in New England with a 3-cent reduction in Boston.

Prices Below Normal

The Boston tank wagon and service station prices on regular branded grade gasolines at this writing were 12 and 13 cents including Federal and state taxes, or 8 and 9 cents net. These prices are 5½ cents below normal and reflect a price war which has prevailed in New England's largest gasoline consuming point most of the time since early in the year. Where the refiner is giving a jobber a full 6-cent protection at Boston the harbor price on middle-grade gasoline is now about 3 cents per gallon. The Boston situation has served to disturb marketing conditions at many other points and price cutting has spread to points in Vermont, New Hampshire and Maine.

Gasoline tank car prices have not been changed by the major companies in the New York harbor area and several other coastal points. In most cases they are meeting competition wherever prices are subnormal. It is feared that subnormal points will become so numerous that a general reduction will be made effective.

Sellers were encouraged by reports which indicated that under the gasoline buying program seven cargoes of so-called distress gasoline had been purchased at the Gulf Coast at the close of last week. The prices in line with the agreement approved at Washington were 5 cents for U. S. Motor of 59 octane and below and 5¼ cents for 62 octane. This buying by major companies in this territory, it was hoped, would remove surplus material at the Gulf and thus tend to strengthen this market which has been disturbed by Gulf Coast shipments based on prices as low as 4½ cents at Gulf terminals. Attention now is directed toward the outcome of renewed efforts by the Government to stop illegal oil operations in East Texas, upon which efforts it is understood continuance of the buying program will depend.

In the New York Harbor area quoted

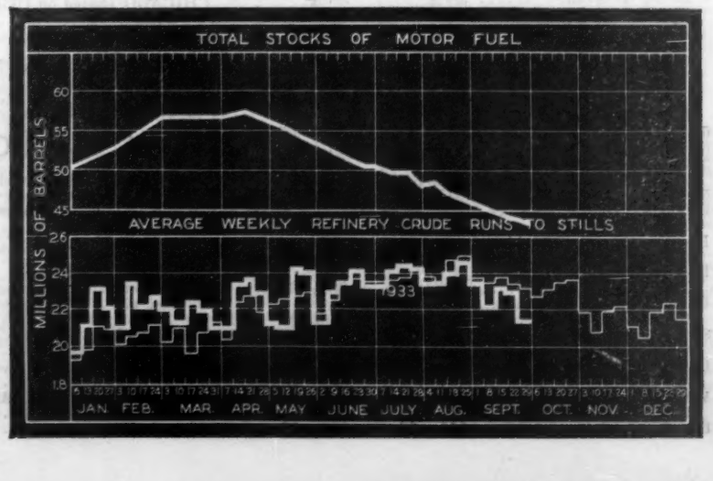
(Continued on Page 44)

American Petroleum Institute Weekly Refinery Statistics

Week Ending September 29, 1934

	Capacity reporting per cent	Daily crude runs (bbls.)	Finished motor fuel (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	453,000	13,408,000	14,469,000
Appalachian	93.3	96,000	1,519,000	1,490,000
Indiana, Illinois, Kentucky	94.6	309,000	6,548,000	5,093,000
Oklahoma, Kansas, Missouri	83.7	193,000	4,015,000	3,667,000
Inland Texas	17.6	78,000	1,026,000	1,558,000
Texas Gulf	97.5	434,000	3,604,000	10,580,000
Louisiana Gulf	96.4	120,000	1,437,000	2,981,000
North Louisiana and Arkansas	83.7	45,000	234,000	602,000
Rocky Mountain	66.7	25,000	545,000	553,000
California	96.9	398,000	11,514,000	74,585,000
Total United States	89.7	2,151,000	43,850,000	115,578,000

Note: finished motor stocks shown in graph and in table include those at refineries, at bulk terminals and in pipe lines, but do not include 5,000,000 to 7,000,000 bbls. of unfinished gasoline which could be reprocessed quickly.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

The following quotations are exclusive of the Federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils:

Refinery Gasolines

	Oct. 2		Sept. 25	
OKLAHOMA (Group 3)—				
U. S. Motor grades:				
Below 63 octane	.02⅝	.03⅜	.03¾	.04
63-70 octane	.04⅛	.04½	.04⅝	.05
60-62 400 grades:				
Below 63 octane	.02¾	.03½	.03¾	.04⅛
63-70 octane	.04¼	.04½	.04⅝	.04⅝
64-66 375	.03¾	.04	.04¼	.04⅜
68-70 360	.03⅞	.04	.04⅝	.04½
NORTH TEXAS—				
U. S. Motor grades:				
Below 63 octane	.03⅛	.03¾	.03¾	.04⅞
63-70 octane	.04⅛	.04½	.04½	.04¾
60-62 400	.03⅜	.03½	.03¾	.04
64-66 375	.03¾	.04	.04	
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 63 octane	.04		.04¼	
63-70 octane	.05		.05	
60-62 400	.04	.04¼	.04¼	.04⅜
68-70 360	.04⅛	.04½	.04⅝	.04⅝
ARKANSAS (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 63 octane	.04		.04¼	
63-70 octane	.05		.05	
CHICAGO (based on Oklahoma Group 3)——				
U. S. Motor grades:				
Below 63 octane	.03⅜	.03¾	.03½	.04
63-70 octane	.04⅜	.04⅝	.04½	.04¾
60-62 400	.03½	.03¾	.03⅝	.04
64-66 375	.04	.04¼	.04	.04¼
68-70 360	.04¼	.04½	.04¼	.04⅜
Aviation fighting grade	.05	.05⅛	.05	.05⅛
PENNSYLVANIA (inland refineries)— —				
58-60 U. S. Motor:				
Below 60 octane	.05⅜	.05⅝	.05⅜	.05⅝
60-64.9 octane	.06¼	.06⅛	.06⅛	.06¼
65-70 octane	.06½	.06⅝	.06½	.06⅝
68-70 350	.06⅜	.06½	.06⅜	.06½
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.07	.08	.07	.08
58-60 400	.08	.09	.08	.09
EAST COAST—				
U. S. Motor, below 60 octane:				
*New York	.05¾		.05¾	
Baltimore	.05¾		.05¾	.06
U. S. Motor, 60-64 octane:				
*New York (Bayonne)	.06		.06	
Philadelphia	.06	.06¼	.06	.06¼
Boston	.05	.05½	.0620	.0650
Baltimore	.06		.06	.06¼
Charleston, S. C.	.06	.06¼	.06	.06¼
U. S. Motor, 65 and above:				
*New York (Bayonne)	.06¼		.06¼	
Philadelphia	.06¼	.06½	.06¼	.06½
Boston	.05¼	.05½	.0645	.0675
Baltimore	.06¼	.06½	.06¼	.06½
Charleston, S. C.	.06¼	.06½	.06¼	.06½

*All grades of gasoline one-fourth cent less for small barge shipments.

GULF COAST (domestic)—				
U. S. Motor:				
Below 60 octane	.04¾		.04¾	
60-64.9 octane	.04¾	.05¼	.04¾	.05¼
65 octane and higher	.05¼		.05¼	

Naphthas

	Oct. 2		Sept. 25	
PENNSYLVANIA (inland refineries)—				
50-52 (blending)	.05¼	.05⅜	.05¼	.05⅜
52-54 450 (blending)	.05¼	.05⅜	.05¼	.05⅜
54-56 450 (blending)	.05¾	.05⅞	.05¼	.05⅞
CHICAGO (based on Oklahoma Group 3)——				
50-52 450 (blending)	.03¾	.04	.03¾	.04
Cleaners' naphtha, 56-58 gr.- 200 i.b.p.-320 e.p.	.06¾	.07	.06¾	.07
Lacquer diluent, 180 i.b.p.- 250 e.p.	.07¾	.08	.07¾	.08
Lacquer diluent, 140 i.b.p.- 200 e.p.	.08¾	.09	.08¾	.09
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.06¾	.07	.06¾	.07
Stoddard solvent, 300 i.b.p.- 410 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
Pet. thinner, 290-300 i.b.p.- 415 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06¾	.07	.06¾	.07
Petroleum spirits	.05¾	.06	.05¾	.06

Natural Gasolines

	Oct. 2		Sept. 25	
OKLAHOMA (Group 3)—				
Grade 26-70	.03		.03	
Grade 18-55	.03½		.03½	
Low vapor pressure grades:				
14 lb. v.p. (max.)	.03¾		.03¾	
11 lb. v.p. (max.)	.04⅛	.04¼	.04⅛	.04¼
NORTH TEXAS—				
Grade 26-70	.02¾	.03	.02⅝	.02¾
Grade 18-55	.03⅜	.03⅝	.03⅜	.03½
Low vapor pressure grades:				
14 lb. v.p. (max.)	.03⅝	.03¾	.03⅝	.03¾
11 lb. v.p. (max.)	.04	.04¼	.04	.04¼
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
Grade 26-70	.03⅜		.03⅜	
CALIFORNIA—				
75-85 375	.06½	.06¾	.06½	.06¾

Kerosenes

(All kerosenes water white)

	Oct. 2		Sept. 25	
OKLAHOMA (Group 3)—				
41-43	.03	.03⅛	.03⅛	.03¼
42-44	.03⅛	.03¼	.03¼	.03⅜
NORTH TEXAS—				
40-41	.02⅞	.03⅛	.02⅞	.03⅛
41-43	.03	.03¼	.03	.03¼
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
41-43	.03⅜		.03⅜	
ARKANSAS (Ark., N. La. & Miss. del.)—				
41-43	.03⅜	.03½	.03⅜	.03½
PENNSYLVANIA (inland refineries)—				
45	.04½	.04⅝	.04½	.04⅝
46	.04⅝	.04¾	.04⅝	.04¾
47	.04¾	.04⅞	.04¾	.04⅞
CHICAGO (based on Oklahoma Group 3)——				
41-43	.03	.03¼	.03	.03¼
42-44	.03¼	.03½	.03¼	.03⅜
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.04⅜	.05¼	.04¾	.05¼
NEW YORK (Bayonne, N. J.)—				
41-43	.05	.05¼	.05	.05¼
GULF COAST (domestic)—				
41-43	.04½	.04⅝	.04½	.04⅝

Petroleum Coke

(Prices per ton f.o.b. refineries in Chicago area)
(Refineries will absorb freight to 80 cents a ton)

	Oct. 2	Sept. 25
Still run	5.50	5.50
Direct from still	6.50	6.50
Egg, nut, pea	8.25	8.25
Lump	8.25	8.25

Furnace Oils and Tractor Fuels

(Zero cold test under 190° flash and good odor)

	Oct. 2		Sept. 25	
OKLAHOMA (Group 3)—				
32-36 straw	.02¾	.02⅞	.02¾	.02⅞
36-38 straw	.02⅝	.02⅞	.02¾	.02⅞
38-40 straw	.02¾	.02⅞	.02¾	.02⅞
38-40 prime white	.02⅞	.03	.02⅞	.03
NORTH TEXAS—				
38-40 straw	.02¾	.02⅞	.02¾	.02⅞
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
36-40 furnace oil	.02¾	.03	.02⅞	.03
ARKANSAS (Ark., N. La. & Miss. del.)—				
32-36 furnace oil	.02¾	.02⅞	.02¾	.02⅞
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.02⅞	.03	.02⅞	.03
38-40 straw	.02⅞	.03	.02⅞	.03
38-40 prime white	.03	.03⅛	.03	.03⅛
NEW YORK (Bayonne, N. J.)—				
36-40 (No. 1 grade)	.05	.05¼	.05	.05¼
32-36 (No. 2 grade)	.04½		.04¾	
21 industrial (No. 4 grade)	.04½		.04½	.04¾

Gas Oil, Diesel Oil and Fuel Oil

(Gas oil per gallon; Diesel and fuel oils per barrel)

	Oct. 2		Sept. 25	
OKLAHOMA (Group 3)—				
32-36 gas oil cracking stocks	.01⅝	.01⅝	.01⅝	.01⅞
U.G.I. gas oil	.01½	.01⅞	.01¾	.02
32-36, zero to 15 gas oil	.02½	.02¾	.02½	.02¾
28-30, No. 3 burner oil	.95	1.00	.95	1.00
26-30, zero to 10 fuel oil	.85	.95	.85	.95
24-26 fuel oil	.75	.80	.75	.80
20-22 fuel oil	.70	.72½	.70	.72½
Below 16 fuel oil	.60	.62½	.60	.62½
NORTH TEXAS—				
32-36 gas oil, industrial	.01⅝	.01⅝	.01⅝	.01⅞
22-26 fuel oil	.67½	.70	.67½	.70
Below 20 fuel oil	.57½	.62½	.57½	.62½
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02½	.02⅝	.02⅝	.02¾
14-16 fuel oil	.70	.75	.70	.75
ARKANSAS (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02½	.02⅝	.02⅝	.02¾
32-36 gas oil	.02⅝	.02½	.02⅝	.02½
14-16 fuel oil	.70	.75	.70	.75
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.01¾	.02	.01¾	.02
28-30 zero to 10, fuel oil	.95	1.00	.95	1.00
26-28 zero to 10, fuel oil	.85	.90	.85	.90
22-26 zero to 10, fuel oil	.75	.80	.75	.80
18-22 zero to 10, fuel oil	.62½	.65	.62½	.65
Below 18 fuel oil	.55	.60	.55	.60

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel in all these areas.

PENNSYLVANIA (inland refineries)—				
36-40	.03¾	.03⅞	.03¾	.03⅞
CALIFORNIA—				
Los Angeles:				
30-34 gas oil per bll.	1.10	1.26	1.10	1.26
27 plus Diesel	1.05	1.15	1.05	1.20
27 plus Diesel (bunkers)	1.13	1.20	1.13	1.20
12-16 (bunker at tidewater)	.82	.85	.82	.85
10-16 (cargo lots)	.66	.75	.66	.75
12-17 (tank cars)	.60	.80	.60	.80
San Joaquin Valley:				
10-18 (tank cars)	.55	.70	.60	.70
San Francisco:				
27 plus Diesel per bbl.	1.15	1.25	1.15	1.25
27 plus Diesel (bunkers)	1.19	1.19	1.19	
10-16 (bunkers)	.89	.89	.89	
GULF COAST—				
28-30 gas oil	.03½	.03⅝	.03½	.03⅝
28-30 Diesel (bunkers)	1.80		1.80	
Bunker C (bulk cargoes)	.90	.95	.90	.95
Bunker C (bunkers)	1.05	1.10	1.05	1.10
NEW YORK (Bayonne, N. J.)—				
27 plus, gas oil	.04½		.04½	.04¾
28-30 Diesel (lighterage 6½ cents per bbl.)	1.95		1.95	
28-30 Diesel (tank cars)	.04½		.04½	.04¾
*Bunker C (to ocean-going ships in N. Y. harbor)	1.15		1.30	

*Lighterage charge 5 cents per barrel additional.

Neutral Oils

(Vis. at 100° F. except Pennsylvania, and color N.P.A.)

	Oct. 2		Sept. 25	
OKLAHOMA (Group 3)—				
Zero to 10 Cold Test:				
150-3	.10		.10	
180-3	.11¼		.11¼	
180-4	.10⅝		.10⅝	
200-3	.11¾		.11¾	
200-4	.11¼		.11¼	
240-3	.13½		.13½	
240-4	.13¼		.13¼	
280-3	.14¾		.14¾	
280-4	.14		.14	
300-3½	.15¼		.15¼	
400-4	.17¼		.17¼	
100-2 paraffin oil	.05¾		.05¾	
15-30 Cold Test:				
200-3	.10¾		.10¾	
200-4	.10¼		.10¼	
240-3	.12¾		.12¾	
240-4	.12¼		.12¼	
280-3	.13¾		.13¾	
280-4	.13		.13	
GULF COAST—				
Pale Oils:				
200-3	.07½	.08	.07½	.08
300-3	.08	.08½	.08	.08½
500-3½	.09	.09½	.09	.09½
750-3½	.09½	.10	.09½	.10
1,200-3½	.10	.10½	.10	.10½
2,000-4	.10¼	.10¾	.10¼	.10¾
Red Oils:				
200-5-6	.07¼	.07½	.07¼	.07½
300-5-6	.07¾	.08	.07¾	.08
500-5-6	.08½	.09	.08½	.09
750	.09	.09½	.09	.09½
1,200-5-6	.09¾	.10	.09¾	.10
CALIFORNIA—				
Pale Oils:				
100-2½-3	.12½	.14½	.12½	.15½
200-2½-3	.12½	.14½	.12½	.15½
200-3-3½	.12½	.14½	.12½	.15½
350-3-4	.12½	.14½	.12½	.15½
400-34	.12½	.14½	.12½	.15½
450-3-4	.12½	.14½	.12½	.15½
550-3-4	.12½	.14½	.12½	.15½
600-3-4	.12½	.14½	.12½	.15½
Red Oils:				
200-4-5	.12½	.14½	.12½	.15½
300-5-6	.12½	.14½	.12½	.15½
350-5-6	.12½	.14½	.12½	.15½
400-5-6	.12½	.14½	.12½	.15½

450-5-6	.12½	.14½	.12½	.15½
500-5-6	.12½	.14½	.12½	.15½
600-5-6½	.12½	.14½	.12½	.15½
700-6½ plus	.12½	.14½	.12½	.15½
750-6½ plus	.12½	.14½	.12½	.15½
900-6½ plus	.12½	.14½	.12½	.15½
PENNSYLVANIA—				
150 vis. at 70° F., 3 color; 400-405 flash:				
Zero pour test	.23	.23½	.23	.23½
10 pour test	.22	.22½	.22	.22½
15 pour test	.21½	.22	.21½	.22
25 pour test	.21	.21½	.21	.21½
180 vis. at 70° F., 3 color:				
25 pour test	.24½	.25	.24½	.25
200 vis. at 70° F., 3 color:				
Zero pour test	.29½	.30	.29½	.30
10 pour test	.28½	.29	.28½	.29
15 pour test	.28	.28½	.28	.28½
25 pour test	.27½	.28	.27½	.28

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Oct. 2	Sept. 25
Bright Stocks:		
190-200 D	.20	.20
150-160 D, 0-10	.17	.17
150-160 D, 10-25	.16½	.16½
150-160 25-40	.16	.16
150-160 E	.16	.16
Steam refined:		
630 light green (treated)	.13	.13
600 light green (untreated)	.06 .08	.06 .08
600 dark green (untreated)	.04½ .07	.04½ .07
PENNSYLVANIA—		
Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 210; 540-550 flash):		
10 pour test	.21½ .22	.21½ .22
15 pour test	.21 .21½	.21 .21½
20 pour test	.20½ .21	.20½ .21
25 pour test	.20 .20½	.20 .20½
Steam refined:		
600	.12½ .13	.12½ .13
650	.15 .15½	.15 .15½
600 Pennsylvania flash	.16 .16½	.16 .16½
630 flash	.20½ .21½	.20½ .21½
600 Warren E filtered	.16 .16½	.16 .16½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Oct. 2	Sept. 25
124-126 white crude scale	.03½ .03⅝	.03¼ .03⅜
PENNSYLVANIA—		
122-124	.0325	.0325
124-126	.0325	.0325
NEW YORK HARBOR—		
Wax (a.m.p.) in bags fully refined:		
120-122	.0420 .0430	.0420 .0430
123-125	.0440 .0460	.0440 .0460
125-127	.0445 .0470	.0445 .0470
130-132	.05 .0510	.05 .0510
133-135	.0545 .0570	.0545 .0570
135-137	.0570 .0595	.0570 .0595
124-126 crude scale	.03½ .03¼	.03⅛ .03½
Petrolatum in barrels in carload lots:		
Dark green	.01⅞	.01⅞
Amber	.02⅛ .03	.02⅛ .03
Extra amber	.03 .03⅛	.03 .03⅛
Lily white	.06⅝ .06¾	.06⅝ .06¾
Snow white	.07⅜ .07⅞	.07¾ .07⅞
Cream	.05⅝ .05¾	.05⅝ .05¾
CHICAGO (f.o.b. switching district)*—		
122-124 wax	.0490 .0500	.0490 .0500
125-127 wax	.0515 .0625	.0515 .0525
127-129 wax	.0530 .0540	.0530 .0540
130-132 wax	.0590 .0600	.0590 .0600
132-134 wax	.0615 .0625	.0615 .0625

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F. a.m.p.

Export Prices

GASOLINE

GULF COAST—	Oct. 2	Sept. 25
U. S. Motor	.04¼	.04¼
60-62 400	.04⅜	.04⅜
61-63 390	.04½	.04½
64-66 375	.04¾	.04⅝
LOS ANGELES, CALIF.—		
U. S. Motor grades:		
53-55 octane	.04 .04¼	.04 .04¼
55-65 octane	.04¼ .04½	.04¼ .04½
65-67 octane	.04½ .04¾	.04½ .04¾
67-69 octane	.04¾ .05	.04¾ .05
Above 69 octane	.05 .05¼	.05 .05¼
58-60 400 endpoint	.04¾ .05½	.04¾ .05½

KEROSENE

GULF COAST—				
41-43 prime white	.04	.04⅛	.04	.04⅛
41-43 water white	.04⅛	.04¼	.04⅛	.04¼
44 water white	.04¼	.04⅜	.04¼	.04⅜
LOS ANGELES, CALIF.—				
41-43 water white	.04¼	.04¾	.04¼	.04¾

LUBRICANTS

NEW YORK (f.a.s. in bbls.)—				
Cylinder Stocks:				
600 Warren E	.22	.22½	.22	.22½
600 S.R. unfiltered	.18½	.19	.18½	.19
650 S.R. unfiltered	.20½	.21	.21	.21½
600 flash S.R.	.21½	.22	.22¼	.22½
630 flash S.R.	.25½	.26	.25½	.26
Bright Stocks:				
8 color	.27		.27	.27½
6½ plus color, in dilution	.26		.26	.26½

NEUTRAL OILS

200-3 color	.34	.34½	.34	.34½
150-3 color	.27	.28	.27	.27½

PARAFFIN WAX (Fully Refined)

NEW YORK (prices per pound)—				
120-122 a.m.p.	.0405	.0425	.0405	.0425
123-125 a.m.p.	.0435	.0455	.0435	.0455
125-127 a.m.p.	.0440	.0465	.0440	.0465
128-130 a.m.p.	.04¾	.0490	.04¾	.0490
130-132 a.m.p.	.0495	.0505	.0595	.0505
133-135 a.m.p.	.0540	.0565	.0540	.0565
135-137 a.m.p.	.0565	.0590	.0565	.0590

Crude Oil Gravity Table

Degrees gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas and Louisiana	9 Gulf Coast, Texas, and Louisiana	10 Cotton Valley, Louisiana
Below 20	....	....	....	....	....	....	....	$.82	$ 82	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.74
27-27.9	* 82	....	....	....	....	....	....	.98	.98	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1 00	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.82
31-31.9	.90	.85	.85	....	....	....	.90	1 06	1.05	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....
35-35.9	.98	.93	.92	.81	.71	$1.09	.98	1 12	1 09	.92
36-36.9	1 00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.96
38-38.9	1.04	.99	.99	.87	.77	1 15	1 04	1.12	1.12	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	1.02

Note—Effective June 1, 1934, Texas Co. purchases Texas Panhandle crude on a sweet crude and sour crude basis. Panhandle sweet crude is paid for on a basis of the Gray County prices posted above, and Panhandle sour crude is paid for on a basis of Carson and Hutchinson County prices posted above.

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedule: Below 25°, 76 cents; 25-25.9°, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08; Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co., and Wilcox Oil & Gas Co. All others begin their schedules at below 29°, 84 cents, excepting Philtex Oil Co., which begins with below 31° at 88 cents.

Column 1—Effective September 29, Texas Co. in Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Philtex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; October 1 by Barnsdall Refineries, Inc., in Oklahoma.

Column 2.—Effective September 29, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective September 29, in the Van Pool, Van Zandt County, Pure Oil Co. posted below 29°, 84 cents, with 2 cents added for each degree up to 40 and over at $1.08.

Column 3.—Effective September 29, by Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective December 22, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 29°, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03. Effective March 17, 1934, by Standard Oil Co. of Louisiana and Louisiana Oil Refining Co. Starting with below 25°, 71 cents, adding 2 cents for each degree upward to 40 and over at $1.03.

Column 4.—Effective September 29, by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co. On same day Philtex Oil Co. posted below 31°, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 5.—Effective September 29, by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Philtex Oil Co. posted below 31°, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 6.—Effective September 29, by Humble Oil & Refining Co. and Tide Water Oil Co. and on September 30, by Texas Co., which on September 29 had posted a schedule of $1.07 to $1.12 with a 1-cent spread on each degree.

Column 7.—Effective September 29, by Stanolind Oil & Gas Co.

Column 8.—Effective September 29, by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana; 20-20.9°, 84 cents with 2 cents added for each degree upward to 34 and over at $1.12, and in Cameron Meadows and Iowa, Louisiana; below 20°, 72 cents with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 20°, 70 cents, with 2 cents added for each degree upward to 34° and over at $1; and in Black Bayou and White Castle, Louisiana: Below 20°, 80 cents, with 2 cents added for each degrees upward to 34° and over at $1.16.

Column 9.—Effective September 30, Texas Co. (On September 29, Texas Co. had posted a schedule of 2 cents on each degree, but changed it on September 30).

Column 10.—Effective September 29, by Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 32)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas	$1.08
Stratman, Kans. (Sept. 29, 1933)	1.02
Corsicana (heavy) (June 17, 1933)*	.80
Other fields	(See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co. and Empire Oil & Refining Co.

*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933)	$.70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29 1933)	.76
Pecos County, Yates shallow pool (Sept. 29, 1933)*	.68
Jones and Fisher Counties*	See gravity table

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.

*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers.

	(See gravity table)
Tomball (see note)*	$1.15
Livingston (Sept. 29, 1933)†	1.00
Cleveland (Jan. 11,1934)	1.00
Greta (Sept. 29, 1933)	.85
Refugio, light	(See gravity table)
Refugio, heavy (Sept. 29, 1933)‡	.95
Markham and High Island	(See Gulf Coast gravity table)
Conroe	(See Conroe gravity table)

Note—Tomball, effective September 29, by Humble Oil & Refining Co. and October 2, by Magnolia Petroleum Co., and November 10, by Stanolind Oil & Gas Co.

*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co. Cleveland (Liberty County), posted by Magnolia Petroleum Co.

South Central and Southwest Texas

(See note below table)

Darst Creek	$.87
Mirando	.80
Luling (Sept. 29, 1933)	.75
Pettus	1.05
Salt Flat	.87
Lytton Springs (Sept. 29, 1933)	.95
Duval County (Sept. 29, 1933)	.80
Saxet	.85

Note—Effective on September 29 by Humble Oil & Refining Co., in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by Humble Oil & Refining Co. and Texas Co.

(Continued on Page 32)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

October 2, 1934

Taxes

The gasoline quotations given in the following tables include the 1 cent Federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon, or 3 cents a gallon off retail prices, is permitted for purchases running between 5,000 and 10,000 gallons a month, and 2 cents a gallon off tank wagon, or 4 cents a gallon off retail prices, for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Denver, Colo.	18.0	20.0	5.0	12.5
Pueblo	18.0	20.0	5.0	11.0
Grand Junction	20.5	22.5	5.0	15.0
Casper, Wyo.	18.0	20.0	5.0	11.5
Cheyenne	18.0	20.0	5.0	13.0
Butte, Mont.	21.0	23.0	5.0	17.5
Billings	23.5	24.5	6.0	16.5
Helena	23.0	25.0	6.0	17.5
Great Falls	21.5	23.5	6.0	17.5
Salt Lake, Utah	16.0	18.0	5.0	16.0
Boise, Idaho	22.5	24.5	6.0	18.0
Twin Falls	22.5	24.5	6.0	18.0
Albu'que, N. M.	18.0	20.0	*7.0	13.0

*One-cent city tax.

Effective March 1, 1934, discount to dealers with or without contract throughout Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 2½ cents.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Chicago	14.8	16.8	4.0	8.0
Decatur, Ill.	14.7	16.7	4.0	10.2
E. St. Louis	14.4	16.4	4.0	9.8
Joliet	14.8	16.8	4.0	10.2
Peoria	14.7	16.7	4.0	10.2
Quincy	14.6	16.6	4.0	10.0
Davenport, Ia.	14.5	16.5	4.0	10.1
Des Moines	14.4	16.4	4.0	10.1
Mason City	14.7	16.7	4.0	10.1
Sioux City	14.6	16.6	4.0	9.7
Duluth, Minn.	15.3	17.3	4.0	10.4
Mankato	15.0	17.0	4.0	9.5
Minneapolis	16.0	17.0	4.0	10.4
LaCrosse, Wis.	16.0	18.0	4.0	10.5
Green Bay	16.2	18.2	5.0	10.2
Milwaukee	13.5	14.4	5.0	9.0
Madison	16.0	18.0	5.0	9.9
Detroit, Mich.	16.0	18.0	4.0	10.5
Grand Rapids	15.7	17.7	4.0	10.2
Saginaw	16.0	18.0	4.0	10.5
Evansville, Ind.	16.3	18.3	5.0	10.0
Indianapolis	16.4	18.4	5.0	10.2
South Bend	16.7	18.7	5.0	9.0
Fargo, N. Dak.	16.0	18.0	4.0	11.4
Huron, S. Dak.	16.5	18.5	5.0	11.4
Sioux Falls	16.9	17.9	5.0	10.9
Kans. C., Mo.*	13.9	15.9	4.0	7.5
Springfield	13.6	15.6	3.5	8.8
St. Louis	13.7	15.7	3.5	8.7
St. Joseph*	13.9	15.9	4.0	7.5
Wichita, Kans.	13.5	15.5	4.0	7.5
Bartlesville, Ok.	16.0	18.5	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

Discounts to dealers, effective March 1 1934: Undivided accounts, 4 cents a gallon on Red Crown Ethyl and Standard Red Crown, divided accounts, 3½ cents a gallon on Red Crown Ethyl and Standard Red Crown.

Stanolex Furnace Oil in Chicago

Effective Sept. 6, 1934, f.o.b. Chicago tank wagon prices: No. 1 (36-40 lt. stw. zero), less than 100 gallons, 8¼ cents; 100-149 gallons, 7¼ cents; 150 gallons or more, 6¾ cents; No. 2 (30-34, stw. zero), less than 150 gallons, 7¼ cents; No. 3 (22-26, zero), less than 150 gallons, 7 cents; No. 4 (12-16, zero), less than 400 gallons, 6½ cents; viscosity of No. 4, 90-115 at 100° F.; No. 5, less than 400 gallons, 5¾ cents. For deliveries of more than stated quantities of Nos. 2, 3, 4 and 5, deduct 1 cent.

Naphths

	Tank wagon*
Oleum spirits	16.9
V.M.&P. naphtha	18.0
Cleaners' naphtha	18.0
Stanisol	18.0

*Prices include 3-cent Illinois tax, but not 1-cent Federal tax.

Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.	19.0	22.0	7.0	14.5
Augusta	20.0	22.0	7.0	14.5
Macon	20.0	22.0	7.0	14.5
Savannah	19.0	21.0	7.0	14.0
Birm'ham, Ala.	18.0	20.0	8.0	11.0
Mobile	20.5	23.5	8.0	12.0
Montgomery	21.5	23.5	8.0	15.0
Jackson, Miss.	18.5	20.5	8.0	13.0
Vicksburg	18.0	20.0	7.0	12.0
Jack'ville, Fla.	17.0	20.0	8.0	11.5
Miami	18.0	20.0	8.0	13.5
Pensacola	17.0	19.0	8.0	13.5
Tampa	18.0	20.0	8.0	12.5
Lexington, Ky.	18.5	20.5	6.0	11.5
Covington	16.0	17.0	6.0	11.5
Louisville	18.0	20.0	6.0	11.0
Paducah	18.0	20.0	6.0	11.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 3 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1 cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline; in Florida an inspection fee of one-eighth cent on kerosene and gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	14.0	16.0	5.0	6.0
Fort Worth	14.0	16.0	5.0	7.0
Houston	15.0	17.0	5.0	8.5
San Antonio	16.0	18.0	5.0	8.5
El Paso	18.5	20.5	5.0	11.0
Muskogee, Ok.	16.0	18.0	5.0	6.0
Okla. City	12.0	14.0	5.0	8.5
Tulsa	16.0	18.0	5.0	7.5
Ft. Smith, Ark.	16.5	18.5	5.0	8.0
Little Rock	19.0	21.0	7.5	9.0
Texarkana	17.0	19.0	5.0	8.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atl'tic City, N.J.	13.0	15.5	4.0	10.0
Newark	13.3	17.8	4.0	9.5
Annapolis, Md.	19.6	19.1	5.0	10.0
Baltimore	19.1	18.6	5.0	9.5
Cumberland	20.6	20.1	5.0	12.7
Wash'g'n, D. C.	17.3	16.8	3.0	11.5
Danville, Va.	21.7	21.2	6.0	12.9
Norfolk	20.2	19.7	6.0	11.3
Petersburg	20.5	20.0	6.0	11.4
Richmond	20.5	20.0	6.0	11.7
Roanoke	21.5	21.3	6.0	12.9
Charls'n, W. Va.	20.0	19.5	5.0	12.6
Parkersburg	19.3	18.8	5.0	11.2
Wheeling	20.0	19.0	5.0	12.2
Charlotte, N. C.	23.4	22.0	7.0	13.5
Hickory	23.7	23.2	7.0	13.7
Mt. Airy	23.7	21.2	7.0	13.8
Raleigh	23.2	22.7	7.0	13.3
Salisbury	23.5	18.0	7.0	13.6
Charleston, S.C.	21.2	20.7	7.0	11.3
Columbia	23.0	22.0	7.0	13.2
Spartanburg	23.4	22.5	7.0	13.5

Price basis to dealers: Divided dealers at dealer price, which is 2½ cents above tank car; undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Omaha	17.0	17.4	5.0	10.0
McCook	17.7	18.7	5.0	10.7
Norfolk	17.4	17.9	6.0	10.4
North Platte	17.8	18.3	5.0	10.0
Scottsbluff	18.8	18.3	5.0	9.0

Note—Discount to dealers, including any rentals under lease and agency agreements: Undivided accounts, Standard Red Crown and Red Crown Ethyl Gasoline 4 cents. Reliance (third brand) 3 cents, under service station price. Divided accounts, Standard Red Crown Ethyl Gasoline 3½ cents. Reliance (third brand) 2½ cents under service station price. Discounts to consumers covered only by form CD-1, official commercial consumer contract.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	20.8	20.0	*7.0	†12.0
Baton Rouge	20.2	19.7	6.0	†12.0
Alexandria	21.1	20.5	*7.0	†10.0
Lafayette	21.3	20.8	*7.0	†12.0
Lake Charles	21.2	20.7	*7.0	†12.0
Shreveport	19.0	16.0	6.0	†10.0
Knoxville, Tenn.	24.7	22.5	8.0	12.5
Memphis	23.1	22.5	8.0	10.5
Chattanooga	24.5	22.5	8.0	11.0
Nashville	24.0	22.5	8.0	12.0
Bristol	24.5	23.6	8.0	14.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax.

Price bases to dealers: Divided dealers at dealer price, which is 2½ cents above tank car; undivided dealers at dealer price less one-half cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank wagon†	Gasoline: Posted retail	Gasoline: Incl'ds tax of	Kero. tank wagon
San Francisco	16.5	18.5	4.0	12.5
Los Angeles	15.5	17.5	4.0	12.5
Fresno, Calif.	17.0	19.0	4.0	14.0
Phoenix, Ariz.	20.0	22.0	6.0	‡16.0
Reno, Nev.	16.5	18.5	5.0	15.5
Portland, Ore.	19.0	21.0	6.0	13.5
Seattle, Wash.	19.0	21.0	6.0	13.5
Tacoma	19.0	21.0	6.0	13.5
Spokane	22.0	24.0	6.0	18.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

‡Includes 5-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Philadelphia, Pa.	15.5	17.5	4.0	10.0
Pittsburgh	16.0	18.0	4.0	10.0
Allentown	15.5	17.5	4.0	10.0
Erie	16.0	18.0	4.0	9.0
Scranton	16.0	18.0	4.0	10.0
Altoona	16.0	18.0	4.0	10.0
Dover, Del.	16.0	18.0	4.0	10.0
Wilmington	15.5	17.5	4.0	9.0
Springf'd, Mass.	15.0	17.0	4.0	8.5
Worcester	15.0	17.0	4.0	8.5
Hartford, Conn.	14.0	16.0	3.0	7.5
New Haven	14.0	16.0	3.0	7.5
Providence, R.I.	13.0	14.0	3.0	8.5

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

New York and Part of New England

STANDARD OIL CO. OF NEW YORK

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	15.0	16.0	4.0	9.0
Met. New York	16.5	17.5	4.0	8.5
Buffalo	16.5	17.5	4.0	9.0
Rochester	16.5	17.5	4.0	9.25
Syracuse	16.5	17.5	4.0	9.25
Boston, Mass.	12.0	13.0	4.0	8.5
Portland, Me.	17.5	18.5	5.0	8.75
Manch't'r, N.H.	16.5	17.5	5.0	8.75
Burlington, Vt.	19.0	20.0	5.0	9.75

Commercial consumers allowed 2 cents discount below service station prices in accordance with CD-1 of oil industry's code.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Ohio points	16.5	17.5	5.0	*13.5

*Includes state tax of 1 cent, effective July 22.

Canada*

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Hamilton, Ont.	†21.0	23.5	6.0	17.0
Toronto, Ont.	†21.0	23.5	6.0	17.0
Brandon, Man.	30.3	33.3	7.0	31.0
Winnipeg, Man.	28.7	31.7	7.0	30.2
Regina, Sask.	29.0	32.0	6.0	31.0
Saskatoon, Sask.	31.8	34.8	6.0	34.0
Edmonton, Alta.	31.2	34.2	6.0	32.7
Calgary, Alta.	28.5	31.5	6.0	31.0
Vancouver, B.C.	†28.0	30.0	7.0	24.0
Montreal, Que.	24.0	27.0	6.0	17.0
St. John, N.B.	26.0	30.0	8.0	31.0
Halifax, N.S.	26.0	30.0	8.0	31.0

Imperial gallon used in Canada. †Governed by service station price.

Maritime provinces, all deals 4 cents off service station price. All other provinces open dealers 3.5 cents off service station price and 1 cent additional to 100 per cent accounts.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Standard Oil Co. of Louisiana, September 19, reduced station gasoline 1½ cents in Shreveport; September 22, reduced it 1 cent further. September 22, advanced station gasoline 1 cent in Bristol. July 12, reduced tank wagon kerosene 2 cents in Shreveport.

Standard Oil Co. of California, September 25, reduced tank wagon and station gasoline 2.5 cents in Reno.

Continental Oil Co., September 25, advanced tank wagon kerosene 2.5 cents in Denver.

Standard Oil Co. of New Jersey, September 15, reduced station gasoline 1 cent in Salisbury; September 21, reduced it 2 cents further.

Atlantic Refining Co., September 20, reduced tank wagon kerosene one-half cent in Worcester. September 22, reduced tank wagon kerosene one-quarter cent in Springfield. September 7, reduced tank wagon kerosene 1 cent in Hartford. August 8, reduced tank wagon kerosene 1 cent in New Haven.

Socony-Vacuum Oil Co., September 27, reduced gasoline tank wagon and station gasoline 1 cent in Buffalo, and one-half cent in Rochester and Syracuse. September 25, reduced tank wagon and station gasoline 3 cents in Boston. September 21, reduced tank wagon and station gasoline 1 cent in Manchester. September 28, advanced tank wagon and station gasoline 2.5 cents in Portland.

Magnolia Petroleum Co., September 24, advanced tank wagon and station gasoline 1½ cents in San Antonio. September 28, reduced tank wagon kerosene 2 cents in Dallas.

TEXAS OIL TAX UNCHANGED

AUSTIN, Tex., Oct. 2.—The Texas senate killed, by failure to consider it, a house resolution by Rep. Albert K. Daniel of Crockett providing for a joint committee to join similar groups of oil producing states to consider a unified program of taxation of oil, gas and their products, and to recommend legislation in Texas on whatever agreement might be reached.

It followed a bill by Rep. Albert K. Daniel suggesting the increase of the present 2-cent per barrel minimum tax on oil, and 2 per cent when the price exceeds $1 per barrel, to 10 cents per barrel. This bill died in the house. By defeat of both the resolution and the bill, the tax upon oil was left unaffected by the special session.

LOUIS F. MERRILL DEAD

Louis F. Merrill, 34, chief engineer for the Axelson Manufacturing Co., died in Detroit, Mich., September 19, following an emergency appendictomy. Interment was in Wollaston, Mass., his birthplace. Mr. Merrill had been with Axelson since 1920.

D. E. LITTLE DIES

HOUSTON, Tex., Oct. 1.—D. Edgar Little, 48, manager of the marketing department of the Pure Oil Co. at Houston, died suddenly at his home Saturday.

NEWS FOR SALES DEPARTMENTS

Suggest Use of Asphalt for Irrigating Ditches

J. A. Warren of the Kinney-Coastal Oil Co., has called attention to the possibilities for the use of asphaltum mat in the Rocky Mountain states. It is generally recognized that canals and ditches carrying irrigation water suffer a heavy loss by seepage. In fact the flow of subsurface water used for irrigation back into the streams forms a considerable quantity of water which is filed upon and again used. In some districts subsurface waters have made necessary the construction of large drainage districts. Mr. Warren expresses the opinion that the use of asphalt mats for lining irrigation ditches and canals, riprapping reservoir dams and for other irrigation construction offers large possibilities in this territory where most of the irrigation takes place. Colorado alone has more than $90,000,000 invested in irrigation enterprises. The Big Horn Basin has immense quantities of black asphaltum oils which are available for such a use. The saving in water will, he says, most likely be found to be many times the cost of lining the ditches and canals.

Use Plane for Sales Trip

Frank C. Hart, president of Hartol Products Corp., New York City, pictured in front of his five-passenger "Beechcraft," the fastest plane of its horsepower in the country, which he recently purchased to aid him in covering increasing business territory quickly.

Mr. Hart, an independent distributor of petroleum, has long been a flying enthusiast, and holds a pilot's license. The ship is powered with a 225-horsepower Jacobs engine, and is streamlined and equipped with retraceable landing gear, as well as air brakes which reduce the landing speed at about 45 miles per hour. The ship has a cruising speed of 152 miles per hour, and a top speed of 175 miles per hour.

REGION 4 MEETING

P. M. Miskell, chairman of the marketing committee for Region 4, has called a meeting of that committee for October 5 at the Mayo Hotel in Tulsa.

PROPOSED GAS TAX PROTESTED

Protest against a proposed 1-cent parish tax on gasoline has taken the form of 150 petitions posted in service stations and stores of Shreveport, La. The signatures of 10 per cent, or approximately 2,000 of the qualified voters is required to assure a parish election on the issue.

A recent examination of the petitions revealed that this number has been secured. The Shreveport Chamber of Commerce is leading the fight against the addition which would make a total tax of 7 cents per gallon.

BIDS FOR SHERWOOD INTEREST

NEW YORK, Oct. 1.—According to reports here the Gulf Oil Corp. has bid $1,050,000 for the half interest in the Sherwood Oil Corp., owned by the Cities Service Co. The Sherwood company is a large jobber of petroleum products in this section. It is understood that the Gulf corporation is also endeavoring to secure the remaining half interest in the Sherwood company.

WINTER ADVERTISING PLANNED

OIL CITY, Pa., Oct. 1.—For the first time in its 11 years of activity, the Pennsylvania Grade Crude Oil Association will conduct a winter advertising campaign, it was announced at headquarters here. Cold weather lubricating developments, featuring the introduction of the 10-W and 20-W crankcase motor oils, are responsible for this change in policy. The program will stress ease in starting.

Navy Announces Contracts for Fuel Oil and Gasoline

Contracts for petroleum products to be used on the Pacific Coast and Hawaii have been announced by the Navy Department. Fuel oil purchases totaling $907,888.30 are as follows: Union Oil Co., 1,003,200 bbls. for $806,045.30; Richfield Oil Co., 120,000 bbls., $100,800; Sunset Pacific Oil Co., 700 bbls., $1,043.

Contracts for 3,102,900 gallons of gasoline were awarded as follows: Standard Oil Co., 934,950 gallons for $119,186; Union Oil Co., 933,350 gallons, $144,855; Richfield Oil Co., 421,000 gallons, $46,543; Shell Oil Co., 793,600 gallons, $118,925.

OUSTER SUIT ARGUED

AUSTIN, Tex., Oct. 1.—Arguments were completed on the appeal of Attorney General James V. Allred in his suit to oust 15 major oil companies from Texas and collect penalties on grounds they violated antitrust laws.

The appeal, argued before the Third District Court of Civil Appeals, sought to set aside a lower court decision some months ago sustaining the defendant oil companies, a general demurrer.

The lower court held that national recovery laws suspended the state antitrust statutes which Mr. Allred charges the oil companies violated. Mr. Allred personally argued before the higher court.

H. W. Dodge » » »

H. W. DODGE, vice president in charge of domestic sales of the Texas Company, directs the marketing operations of a company having a wider distribution of petroleum products than any other single company in the United States. Starting early in its history, the company expanded its refining and marketing operations to secure nationwide distribution and its products for several years have been available in every state of the Union and the District of Columbia. This blanket of outlets has enabled the company to carry out merchandising policies on a national scale which have attracted wide attention within and outside the oil industry.

Mr. Dodge's connection with the Texas Company dates back to 1904, shortly after the company was organized. At that time he worked as messenger boy in the company's general offices at Beaumont, Tex. Later he became warehouse helper at the Houston, Tex., bulk station of the sales department. He continued in this department holding positions as traveling salesman, agent, assistant superintendent of the Houston district and later the Oklahoma district. During this period he also studied law at the University of Texas and was admitted to the bar at Austin in 1913.

When the western marketing department of the Texas Company was created in 1922, Mr. Dodge was placed in charge with headquarters in Denver, Colo. In 1925 he was made manager of the northern territory of the sales department and in 1929, he became general sales manager at New York. He was advanced to his present position in 1933.

SINCLAIR STILL INTERESTED

LOS ANGELES, Calif., Oct. 1.—Harry F. Sinclair, chairman of the executive committee of the Consolidated Oil Corp., now here on his annual survey of the company's properties, said today that his concern "is not satisfied to stand still on the Pacific Coast."

A reference to the Richfield Oil Co. of California and the possibility of Consolidated taking a hand in its reorganization, brought the reply:

"We are still interested in Richfield."

California Gasoline Taxes Continue Summer Decline

Reaching a total of $3,379,024.04 California gasoline taxes for August continue to show a decline in comparison with the corresponding month of last year. Some improvement is seen, however, in the ratio of decrease, which is only half as great as that of the month before.

The decline in tax returns began in June, 1934, after a two months' period of gain through April and May. However, the figures for August indicate that there is stubstantial improvement in contrast with July business. Assessments for sales made during July were $323,239.65 less than for the same month of 1933. This marked a loss of 9.7 per cent.

Comparison of sales for last month with those for August, 1933, shows a loss in tax liability of $157,350.98. This is a decline of 4.4 per cent.

Oil companies reporting sales of more than 1,000,000 gallons of gasoline for August are listed below. Differences between total sales and taxable sales result from nontaxable transactions in interstate or foreign commerce or with the Federal Government and in some cases from resale of gasoline already taxed to some other company.

Name—	Gallons actually sold	Net taxable gallonage
Associated Oil Co.	17,041,105	9,462,759
Caminol Co., Ltd.	2,348,265	2,351,853
Exeter Refining Co.	2,499,296	2,538,124
Fourl, Charles W.	2,044,176	1,867,459
General Pet. Corp.	25,373,922	10,761,288
Macmillan Pet. Corp.	1,941,960	2,026,167
Western O. & R. Co.	1,989,306	2,007,467
Hancock Oil Co.	3,779,944	3,737,912
Richfield Oil Co.	13,275,296	8,824,480
Mohawk Pet. Co.	1,252,649	1,229,494
Norwalk Co.	2,216,942	1,191,529
Olympic Ref. Co.	1,039,229	1,002,010
Petrol Corp.	1,064,880	1,059,259
Rio Grande Oil Co.	2,446,915	2,504,788
Sunset Pac. Oil Co.	3,206,055	333,038
Seaside Oil Co.	2,131,140	1,207,513
Shell Oil Co.	25,850,614	10,523,544
Standard Oil Co.	52,565,237	20,805,029
Texas Co.	5,976,744	4,138,288
Union Oil Co.	18,753,989	11,592,298
Wilshire Oil Co.	4,976,745	5,012,524

GASOLINE PRICES SETTLED

The controversy over gasoline prices in Virginia and Maryland areas adjacent to the District of Columbia has been settled. Under the agreement, which went into effect September 19, gasoline will be sold at District of Columbia prices in these areas as applied before the governing NRA code became effective several months ago.

IRVING OIL EXPANDS

HALIFAX, Nova Scotia, Oct. 1.—The Irving Oil Co., oil and gasoline distributor in the maritime provinces, is expanding its shipping and storage facilities. A wharf and mooring equipment is being erected on the Petitcodiac River near Moncton, New Brunswick; and the warehouse and storage facilities at Sydney Harbor, Nova Scotia, are also being supplemented by a wharf.

NEWS FOR PETROLEUM REFINERS

East Texas Refining Trend Toward Larger Companies

Several changes are reported in refinery ownership and plant capacities in the East Texas area. The Panama Refining Co. of Kilgore has completed a new tube still, and the Utah Refining Co. of the same city is building a cracking unit at its skimming plant.

H. S. Grodon and Neal R. Cooper are reported to have purchased the Dutch Rose Refining Co.'s 1,200-bbl. plant at Gladewater.

The East Texas Oil Refining Co. has sold its two skimming plants at Friars Switch to J. I. Staley and associates of Wichita Falls, Tex. Included are the original 6,000-bbl. plant with a 10,000-bbl. capacity still originally constructed by the Central Refining Co. This plant together with the 10,000-bbl. plant of the East Texas company at Longview places it among the major independent refiners of East Texas.

R. G. McMurray, of the McMurray Refining Co., is reported to own a controlling interest in the Pine Refining Co. which has a 3,700-bbl. refinery at Camps Switch. The McMurray brothers are the largest refiners in the East Texas area and the addition of this plant would make them one of the largest independent companies in the State.

The Constantin Refining Co., owned by Eugene, Jules and C. J. Constantin, recently sold its 3,000-bbl. cracking unit at Overton to R. Duncan and G. A. Sadley of the Tyreco Refining Co. This is the third major consolidation of refining companies in the past few weeks. The Tyreco Refining Co. operates a refinery under that name at Arp, and is associated with the Artex Refining Co. which has a 2,000-bbl. plant near Arp.

ALLOCATION MEETING

WASHINGTON, D. C., Oct. 2.—The Refinery Board of Review will hold its regular monthly meeting in Washington on Monday, October 8, 1934.

At that time they will hear appeals from the decisions of district allocators and district allocating agencies by companies desirous of obtaining a larger gasoline allocation.

All appellants are requested to submit to the board, in Washington, complete data as required by the rules of procedure adopted by the board, and all facts upon which they base their appeal, at the earliest possible moment, and in no event later than October 8.

EAST TEXAS CHANGES CONTINUE

Refineries in the East Texas Field adding to their plants and installing more equipment for added recovery from the crude are the Condor Refining Co. at Reeds Switch and the Ward Refining Co. at Gladewater. The former is installing a tube still and the latter is now completing a bubble tower at its plant. Many of the plants in the field have installed equipment to increase their recovery of gasoline.

L. C. Woods has leased the L. & M. (OK) Refining Co.'s plant at Kilgore, while the Eagle Refining Co. has dismantled its plant at Gladewater. Many changes have taken place in the ownership of plants in the field, some of the refiners withdrawing from business whereas still others have been adding to their refining capacity, some of them acquiring controlling interest or purchasing plants to add to their daily capacity.

Bureau of Mines Summarizes the Results of Co-operative First Aid Training

The Bureau of Mines has just issued a circular explaining the advantages and progress made in its plan of co-operative first aid training for plant employes. The circular is identified as I. C. 6,803 and in part follows:

"The advantages of first aid training have been materially enhanced with the advent of 100 per cent first aid training. Some of the value and benefits of the co-operative plan of first aid training include:

"The greatest benefit is derived from organized groups of employes trained in treating injuries. It is easy to forget many important points of the training that are absolutely necessary to effective treatment of injuries, but if teams are organized and trained at regular intervals, competent first aid men are always available in any emergency, and by careful planning a competent instructor can be placed in each section of a plant.

"Earlier methods of training employes in first aid to the injured often consisted of lectures, and in some cases the number of men attending each class was so large that many failed to grasp the subjects thoroughly. Instruction of employes in small classes by one of their fellow workmen has the added advantage of making those who take the course feel at ease. Teams of six men each may be formed to work together; this not only develops teamwork, but also, when the instruction is not clearly understood, has the advantage that knowledge may be gained by watching other team members or by asking questions.

"Under the system of direct training by a Bureau of Mines representative, several weeks would be required to train all employes of a large plant; by the use of company instructors the training is greatly expedited, and a large number of men may be trained in a comparatively short time.

"The dressing of imaginary wounds becomes interesting; the men brought together in small groups become well acquainted with one another, and whatever spirit of individual aloofness may have prevailed before generally is broken down and a spirit of co-operation developed during training.

"First aid training, to be effective, should be renewed at least once each year and more often if possible, and as new employes are taken into the organization they should be trained by the competent staff of trained instructors available. Constant effort is required to keep the first aid movement alive, and it is necessary to have a number of trained teams at each plant if the utmost benefit is to accrue. The team members generally should be compensated in some manner to keep the interest alive; the majority of operators do not pay the teams for the training time, but teams are sent to various state or national meets each year, which gives the first aid workers an enjoyable trip.

"A large oil company analyzed the records of each employe who had been injured and found that one man who had received the training was injured for every four who had not received first aid training; in other words, the ratio was 4 to 1. This company also found that first aid classes stimulated safety work, created safety interest, and rewarded the company in returns that could not possibly be compiled. The general manager of a large bituminous coal company stated publicly that the experience of his company had been that the ratio of men injured who had first aid training to those who had not had this training was about 1 to 8.

Another operator reported that after all employes had received training more men reported minor accidents and received treatment, thereby reducing infections and lost time; less trouble was experienced in having accidents reported by the men; and the employes took a decided interest in reporting dangerous conditions as well as injuries, which resulted in much better understanding between the employes and the employer. Prior to the 100 per cent campaign, many of the employes looked with suspicion at the first aid movement; however, after receiving the training, the men became ardent supporters.

"If injuries are promptly and properly cared for by a man trained in first aid, after an accident occurs, complications are prevented and the injured is in much better condition for effective treatment by a doctor or hospital. Furthermore, when all the men at a plant are trained, the possibility of treating an injured employe promptly is greatly increased. If proper treatment is not rendered promptly, cases requiring artificial respiration and control of arterial bleeding may result fatally. Treatment by trained workers will mean less loss of blood by the injured, better physical condition to combat the ever-present hazard of infection, and faster return to health and in cases of fractures or dislocations may prevent lifelong handicap from crooked limbs or stiffened joints.

"The Bureau of Mines does not make any special effort to collect data on lives saved or cases treated by the application of first aid methods; however, records voluntarily sent in by the field men of the bureau and others have been tabulated. It is of interest to note that of a total of 200 cases reported during the fiscal year 1933, 108 lives are reported to have been saved. In electric shock, asphyxiation, suffocation, and drowning, artificial respiration was successful in restoring life in 67 per cent of the cases reported. These are cases in which it is fairly certain that first aid treatment saved life, while in arterial bleeding and miscellaneous cases it cannot be said with certainty that in every instance life was saved; however, it was reported that life was saved in probably 70 per cent of the arterial bleeding cases treated. Records voluntarily sent to the bureau from July 1, 1920, to June 30, 1933, indicate that life was saved in 522 of a total of 676 cases reported. Unquestionably, the cases actually reported to the bureau represent a small proportion of the actual number of lives saved in the mineral industries through application of first aid treatment.

"The training of 1,451 men in first aid by a large California oil company resulted in a 50 per cent reduction in the number of infected cases, a 98.5 per cent reduction in days lost, a 95.2 per cent reduction in compensation and medical cost from infections, and a gross saving of approximately $73,740 a year. The secondary effect of such training was apparent in the reduction of the number and severity of accidents, with the result that large financial savings were made by this company.

Report Outlines Terms of Suspended Buying Program

Although the buying program has been temporarily suspended considerable interest is shown in the announcement issued by the Planning and Coordination Committee in regard to the amounts of distress gasoline it was ready to purchase in East Texas and the prices to be paid.

A statement was prepared by this committee setting forth (1) the volumes of "distress" gasoline in East Texas and other fields, and (2) the price offered for various grades of gasoline in these areas. These prices were to be posted in each of the field offices, namely, Detroit, Mich.; New York, N. Y.; Tyler, Tex.; Houston, Tex.; Fort Worth, Tex., and Tulsa.

VOLUMES OF DISTRESSED GASOLINE

	Bbls.
East Texas gasoline	500,000
Gulf Coast purchases	575,000
Pennsylvania	50,000
Michigan	45,000
Kentucky-West Virginia	40,000
North Louisiana-Arkansas	50,000
Oklahoma-Kansas	100,000
North Texas	50,000
West Texas	15,000
Total	1,425,000
Safety factor	75,000
	1,500,000

PURCHASING COMPANIES' PRICES AS LISTED IN DISTRICT CONTACT OFFICES OF THE PROGRAM COMMITTEE

Gasoline Manufactured from Legally-Produced Crude. Prices in Carload and Cargo Lots, f.o.b. Refinery or Terminal, Date This Oilgram.

Area—	Grade—Octane rating 62 and under (cts.)	Grade—Octane rating 63 and above (cts.)
East Texas:		
Spot contracts only	4	4
Term contracts, beginning Oct. 1	5	5½
Office: Tyler, Tex.		
Gulf Coast	5	5¼
Offices: Houston, Tex., and New York (f.o.b. Gulf Port)		
Pennsylvania		
Office: New York		
Michigan	5	5⅛
Office: Detroit, Mich.		
Kentucky-West Virginia	6	6⅛
Office: Detroit, Mich.		
North Louisiana-Arkansas	5	5⅛
Office: Fort Worth, Tex.		
Oklahoma-Kansas	5⅛	5⅜
Office: Tulsa		
North Texas	4.96	5.46
Office: Fort Worth, Tex.		
West Texas	4.8	5.3
Office: Fort Worth, Tex.		

TIDE WATER PLANS TERMINAL

NEW YORK, Oct. 1.—The Tide Water Oil Co. has announced plans for the construction of a large water terminal at Syracuse, N. Y., on the New York barge canal. The terminal will be located on a 5½-acre tract at Clinton and Polar streets in Syracuse. The terminal ultimately will have a storage capacity of 6,800,000 gallons, with a large warehouse and office building. It will require three months to complete. The company also is building a large terminal at Boston.

NEW CHLOREX UNIT OPERATING

OLEAN, N. Y., Oct. 2.—Socony-Vacuum today announces the operation at its refinery here of a 1,000-bbl. daily capacity Chlorex extraction unit. Another similar unit in the Pennsylvania Grade region is expected to be announced shortly.

NEW STORAGE TANK

COUTTS, Alberta, Oct. 1.—The Dominion Bridge Co. of Calgary is constructing a 12,000-bbl. storage tank for the tank farm of the Maple Leaf refinery here.

THIS METAL

has Acid Licked!

No. 18803 Flanged Globe Valve

WHERE WORKING TEMPERATURES ARE HIGH VALVES OF THIS SUPERIOR METAL OFFER EXCELLENT RESISTANCE TO CORROSIVE OILS AND OIL VAPORS

SPECIFY CRANE No. 18.8 Chrome-Nickel Alloy

Here is a metal worthy of your attention . . . here are valves worthy of a place in every refinery where corrosion is severe. Crane Co. announces a new line of valves made of Crane No. 18.8 Chrome-Nickel Alloy . . . an alloy highly resistant to corrosion . . . a valve that will earn many applications in the oil industry. All valves are regularly cast from standard patterns. That insures interchangeability of renewable parts. These valves have the lightest wall sections consistent with the production of sound castings . . . nothing in these valves in design or manufacture has been overlooked . . . every foundry process is under supervision of the Metallurgical department. *Every machining operation* is controlled by the most elaborate gauging system used in the piping industry today! You can count on Crane No. 18.8 Chrome-Nickel Alloy to stand up in severe service anywhere!

No. 18801 Screwed Globe Valve

No. 18840 Screwed Gate Valve

No. 18868 Screwed Tee

No. 18869 Flanged Tee

No. 18890 Screwed Union

No. 18841 Flanged Gate Valve

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VALVES, FITTINGS, FABRICATED PIPE, PUMPS, HEATING AND PLUMBING MATERIAL

NATURAL GASOLINE MANUFACTURE

Panhandle Investigation Reveals Additional Data

Further findings of the Texas senate investigation committee of conditions in the Panhandle gas field of Texas concerning the natural gasoline industry, the carbon black industry, tax income to the State and the financial returns to landowners have been revealed. Statistics on oil and gas wells and some data on natural gasoline plants were published in the September 27 issue of The Oil and Gas Journal, on page 29.

The statement follows in part, "The income from gas used for carbon black was one-eighth of 1 cent additional to that which was stripped and then blown into the air. Many thousands of people are employed in carbon black industries. The value to the landowner per section of land when the gas is stripped varies from an estimated minimum of $1,184 to an estimated maximum of $2,960, depending on the producer's contract with the stripping plant. It was found further that the value to the landowner per section when used for heat and light purposes is from $24,000 minimum to approximately $48,000 maximum, depending upon the variations of prices paid by the pipe line companies to the producers. The latter figures are based upon the estimated footage of gas in place, this being 15,000,000 feet per acre and does not take into consideration the time element in producing the gas. It should be noted that the value for stripping purposes should be realized only, over not to exceed five years, whereas the value for light and fuel purposes would be spread over an estimated period of 75 years.

"The State received from taxes during the year 1932, ending September 30:

From casinghead plants	$35,603.49
From natural gas	110,669.20

"For the year ending September 30, 1933, the State received:

From casinghead plants	$31,711.00
From natural gas	136,002.34

"It is estimated that the field originally contained 20,000,000,000,000 feet of gas, and that 4,000,000,000,000 feet have been withdrawn since its discovery in 1918. The original rock pressure of the field was 430 pounds and the rock pressure on the date of the hearing was 350 pounds, and in some areas it was found to be as low as 200 pounds.

"The average price paid by the stripping plants for gas during the year 1933 was .292 cent per 1,000 feet and during 1932 was .229 cent. The average price for gas used in stripping plants computed by the comptroller was .001075 cent per 1,000 feet on which taxes were paid for 1933. A minimum price per 1,000 feet for gas used as fuel and light was 2 cents. At the rate of 1,000,000,000 feet of gas blown daily into the air daily, with the State realizing no revenue thereon, the field will become exhausted in approximately five years. On the other hand, if the reservoir is protected for future fuel and lighting purposes the State should collect revenues from taxes at the present gross production rate in the sum of $360 per day. This potential revenue would be realizable over the estimated period of 75 years for the life of the field for fuel and lighting purposes, the ultimate revenue recovery being based of course, upon the continued use of natural gas for such purposes. If the 1,000,000,000 feet of gas blown into the air was made into carbon black it would produce 66,000 pounds of carbon black at a minimum price of 4 cents per pound, or $2,340 worth of carbon black, meaning a loss in taxable values to the municipalities, counties and State of $2,640."

Material Balance Used in Elementary Calculation of Vapor Composition

The basis upon which computations are made for the design of plant equipment usually involves the use of molecular weights. With a knowledge of the atomic weights of carbon, hydrogen and oxygen, and the chemical empirical formulae of the hydrocarbons found in natural gasoline all molecular weights needed for this class of problems can be computed. Thus butane, which has a formula C_4H_{10}, has a molecular weight of 12x4 plus 1x10 or 58.

FOR PLANT OPERATORS

Need has been cited for a comprehensive study of calculations of the various factors concerned in natural gasoline manufacturing operations. This is the first of several articles which will appear from time to time dealing with the subject of yields, temperatures, pressures, etc. It is the desire of the author to present the material in a very elementary form.

The pound mol. is the basis assumed in chemical engineering problems of this sort. A pound mol. of a compound is that quantity of which the weight, in pounds, equals its molecular weight. A pound mol. of butane weighs 58 lbs.; of pentane, 72 lbs., etc.

In analyzing a liquid mixture of hydrocarbons, the constituents which are separated may be rated by volume per cent or weight per cent. Either may be used in the calculation of mol. fractions, although weights are decidedly the easier to convert.

If a liquid on fractional analysis shows a composition of 2 pounds of A, 3 pounds of B and 4 pounds of C, the mol. fractions of these compounds, A, B and C in the liquid may be calculated as follows: divide the weight of each compound by its respective molecular weight; add these three quotients, and divide each by the total. The results will be the mol. fractions of the respective compounds and they should total 1.0.

When the analysis of the liquid is known only by volume it must be converted to a weight basis and then as above, to a mol. fraction. The procedure is simple. Determine the weights per unit volume of the compounds concerned. These data may be found in any chemical handbook and are given in grams per cubic centimeter, pounds per gallon, etc. No matter what the system, so long as it is the same for all of the constituents, the weight per cent may be obtained by multiplying the volume per cent of each fraction by its weight per unit volume, adding the products and dividing each respective product by the total.

If the material to be analyzed is a gas, the volume fraction which is identical with the mol. fraction may be used directly.

In the analysis of liquids and gases by distillation, the fractionation is carried out in a true boiling point column which is a highly efficient fractionation tower of laboratory size. Knowing the average boiling point of each cut, the molecular weight of that fraction can be obtained from a boiling point table of hydrocarbons. This computation of mol. fractions forms a part of the approach to the practical problem.

It is necessary also to be acquainted with several charts and graphs. These are needed in finding vapor pressures, fugacities, etc., of hydrocarbons, and will be cited and explained as they become necessary in computations. With this understanding and a working knowledge of simple algebra, one may attempt a practical problem.

As an elementary example, a problem in the computation of yield from a simple vaporizing unit will be considered. The

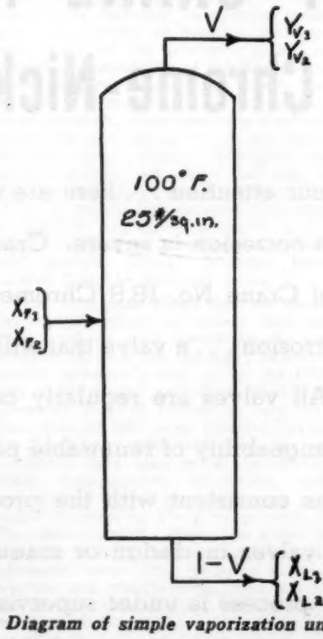


Diagram of simple vaporization unit

data already known in this problem includes the analysis of the liquid fed into the unit and the temperature and pressure maintained within it. The ... to be computed is the composition of the vapor and liquid leaving the unit.

It must be understood from the beginning that accuracy in the practical problem is dependent upon the efficiency

(Continued on Page 51)

Table I.

	X_f	P	P/π	P/π—1	V(P/π—1)	1+V(P/π—1)	X_l	Y_v
Assume V=.25								
C_4H_{10}	.4	.56	2.24	1.24	.31	1.31	.305	.684
C_5H_{12}	.6	.15	.60	—.40	—.10	.90	.667	.400
							.972	1.084
Assume V=.5								
C_4H_{10}	.4	.56	2.24	1.24	.62	1.62	.25	.55
C_5H_{12}	.6	.15	.60	—.40	—.20	.80	.75	.45
							1.00	1.00

May Build Another Plant in Central Michigan Field

MOUNT PLEASANT, Mich., Oct. 1.—Construction of a new natural gasoline plant on the Theodore Oil Co.'s J. W. Campbell lease in Section 17, Porter Township, in the heart of Michigan's largest oil pool, is expected to start this week, it was announced here by James C. Graves, of Saginaw, one of several prominent Michigan oil men backing the project.

J. W. Clark McKee, of the Roosevelt Oil Co., operator of the independent Roosevelt refinery in Mount Pleasant, and Dr. Virgil R. D. Kirkham, were in the southwest last week negotiating for the purchase of a gasoline plant to be moved and set up in the Michigan Field at an estimated cost of $100,000. Charles L. Maguire, president of the Roosevelt company, also is interested in the project.

Tentative contracts have been negotiated with virtually all operators in the Porter Pool with the exception of the Pure Oil Co. to purchase their casinghead gas. A tentative contract also has been signed with the Dow Chemical Co., of Midland, to purchase the entire output of residue gas and negotiations for laying a pipe line to the Dow plant have been opened with pipe line contractors.

It is expected the Roosevelt Oil Co. will handle the casinghead gasoline output. A somewhat different process than is used in the O. H. Grimes plant in Greendale Township, Midland County, will be installed because of the higher sulphur content of the Porter gas. The plant is expected to be completed within a month after construction is started.

Texas Senate Report on Gas Waste Meets With Inaction

The senate of Texas has left unacted upon, a preliminary report of its committee which investigated wastage of gas under the sour gas law. This report recommended increasing the 2 per cent tax on natural gas to one-half cent per 1,000 feet; and recommended that the tax be increased to 2 cents per 1,000 feet on any gas sold for less than 4 cents per 1,000 feet. It also recommended requiring that all gas produced within Texas should be stripped of its casinghead gasoline before being removed from the State, so as to permit Texas to collect the 4-cent gasoline tax on the casinghead gasoline.

FUEL CONSUMPTION INCREASES

The production of electricity for public use in the United States showed a slight gain during June, July and August of 1934. A marked increase in the use of fuels with a decline in the use of water power was reported. Of the fuel consumption, gains were shown in natural gas, fuel oil and coal. The natural gas trend may be attributed to the increased use by public utility companies of residue gas from natural gasoline plants. For August the total production of electricity was 7,655,772,000 kilowatts. Of this production approximately 32 per cent was generated by water power, and 68 per cent by fuels. Natural gas consumption over the three months increased from 11,107,805,000 feet in June to 13,432,209,000 feet in August. This increase of approximately 12 per cent was the greatest shown of the three listed fuels, coal, fuel oil and natural gas.

Late Fields

OKLAHOMA

Champlin Refining Co.'s No. 1, NW cor. Section 32-7-8, Hughes County, Oklahoma, flowed 404 bbls. in 24 hours from Wapanucka lime at 3,049-92 feet.

Magnolia Petroleum Co.'s No. 5, C SW SW NW Section 7-14-4, Chandler Field, Lincoln County, had Wilcox sand at 5,085-95 feet; flowed 450 bbls. in nine hours and 1,020 bbls. in 24 hours through casing, and 250 bbls. in 24 hours through tubing with the flow pinched in.

Atlantic Oil Producing Co. and others' No. 2, NW cor. Section 18-9-5, Earlsboro district, Pottawatomie County, had Hunton lime at 4,124-46 feet. It was acidized with an additional 140-bbl. oil load. Later it produced 730 bbls. net in 48 hours.

Mid-Continent Petroleum Corp.'s No. 1-A, C SW SW NW Section 13-9-6, Seminole City area, Seminole County, had Hunton lime at 4,017-53 feet. It flowed 420 bbls. naturally in 24 hours. Then it was acidized and produced 1,245 bbls. of net oil in 24 hours.

Magnolia Petroleum Co.'s No. 1, SE cor. Section 24-2-6, Fitts Pool, Pontotoc County, topped Simpson sand at 4,410 feet and drilled 6 feet deeper. The well swabbed 67 bbls. of oil in 18 hours. It will be acidized.

Rogers and others' No. 1 McNac, NE NW SW Section 18-8-7, east of the Bowlegs Field, had Wilcox sand at 4,145 feet and cored a saturated sand at 4,149½-51 feet, total depth.

Washington Is Spurred By Protest From Texas

(Continued from Page 10)

to run "hot" oil, and sell gas to brokers below the price offered by the majors. For every 1 gallon purchased by the majors, it was said, 2.3 gallons were sold to brokers. Twelve companies purchased 1,242 cars at 5 cents per gallon for October, but no more is to be purchased until the situation is changed.

The Railroad Commission won its fight for a bill to regulate shipments of refined products manufactured in the field, but lack of a two-thirds majority in the house caused a 90-day delay. In the meantime the commission cannot act in regard to transported products which are made from illegally produced crude oil.

Ample proof that overproduction is on the increase in the field is shown by reports. Runs to refineries increased to around 116,590 bbls. per day this week. Tank car shipments jumped to 616 per day. Shipments of refined products also increased, as shown by the following report:

Product—	Cars	Gallons
Gasoline	1,374	10,081,115
Fuel oil	737	6,884,240
Residuum	155	1,372,610
Kerosene	100	806,610
Distillate	277	2,261,360
Topped crude	484	4,291,865
Casinghead gasoline	126	1,107,680
Crude tops	18	154,835
Naphtha	1	8,110
Gas oil	182	1,495,150

Of this amount 434 cars was reported as tendered oil and 3,020 cars was said to be untendered. Interstate shipments totaled 1,462 bbls. and intrastate shipments totaled 1,992 bbls. Refiners take little cognizance of tenders, and worry less about making them out of refined products.

Overproduction this week was reported running around 105,000 bbls. per day, or an increase of from 15,000 to 25,000 bbls. per day.

SHREVEPORT GEOLOGISTS

SHREVEPORT, La., Oct. 1.—Plans have been completed for the eleventh annual field trip of the Shreveport Geological Society through Wayne County, southwest Mississippi, October 5 and 6.

The trip will start at 8 a. m., Friday, October 5, from the Davis Hotel at Waynesboro, Miss. Headquarters will be at the Pinehurst Hotel, Laurel, Miss. Friday night at this hotel Dr. H. V. Howe will discuss the Wayne County section.

Flowing Wells and Oil Reservoirs Will Be Feature of A.I.M.E. Discussions

Though the fall meeting of the American Institute of Mining and Metallurgical Engineers to be held October 12-13 at the Hotel Mayo in Tulsa is to be divided into four technical sessions, each covering a different phase of petroleum engineering, the dominant theme of the meeting will be devoted to energy in flowing wells and oil reservoirs.

Typical of the papers on this subject will be that of Ralph J. Schilthuis and William Hurst, Humble Oil & Refining Co., Houston, on "Variation in Reservoir Pressure in the East Texas Field." In dealing with this subject, which is of wide general interest since it holds something of a prophecy regarding the flowing life of this great field, the authors discount the generally accepted theory that water drive is the principal force in the movement of the oil. Though they do not disregard this movement entirely, they introduce a new force as being much more effective in increasing the ultimate yield of the field.

This force is said to be the expansion of water in the sense that the water in the Woodbine sand at the edge of the field is under a huge hydrostatic head. As the pressure of oil and gas in the field is released, the water in the column nearest the field expands in progressive steps toward the field from the sand outcrop in the mountains to the west.

Another paper of unusual interest and on a similar subject is that of E. V. Foran, Sidney Judson and W. A. Schaeffer, Jr., on the "Estimation of Petroleum Reserves in Prorated Fields." Salt domes, sand reservoirs and limestone reservoirs are considered individually as each author discusses the type of field on which he is a recognized authority.

There are 19 other papers scheduled for the meeting and are roughly divided into four groups. In the first session on Friday, October 12, the solubility of gas in crude oil will be covered while the second session will be devoted to the energy in flowing wells and oil reservoirs. On Saturday the morning session will be devoted to subjects of general interest, including gas lift in prorated fields, water coning, sucker rods, etc., and the last session of the meeting is concerned with drilling muds. There are to be five papers in the afternoon session outlining the developments in muds due to deep drilling requirements.

Among the outstanding authors scheduled for papers at the meeting are Dr. Cecil J. May, Anglo-Persian Oil Co., London, England; Dr. J. Versluys, Amsterdam, Netherlands; R. D. Wyckoff and M. Muskat, Gulf Research & Development Corp., Pittsburgh, Pa.; Dr. W. K. Lewis and Lombard Squires, Massachusetts Institute of Technology. All of the authors are generally well known and qualified to speak with authority on their particular subjects.

Numerous field trips have been arranged for those who care to study some of the latest developments in the Mid-Continent aren, the Lucien, Crescent, Oklahoma City and the new Fitts Pool being on the trip schedule. It has also been arranged for any who care to do so to go through Tulsa refineries with competent guides.

An outstanding event in connection with this particular meeting is the opportunity for personal contact with the national president of the A.I.M.E., Howard N. Eavenson of New York, who is to address the convention at the banquet to be held on the evening of the first day of the meeting. This is the first time that the Mid-Continent has ever been so honored by Mr. Eavenson.

Stop Gasoline Buying Until Law Is Enforced

(Continued from Page 10)

unreasonable, unjustly discriminatory, unduly prejudical, unduly preferential, or otherwise in violation of any provision of the Interstate Commerce Act, and to take any other action as may be necessary to correct any unlawfulness, if any is found to exist.

To assist the commission in its determinations to the pipe line companies respondent to this action are required to file with the commission answers to a questionnaire which is being sent out by the commission. The answer must be filed on or before December 1, 1934.

Under the question "Oil Transported" the company is required to give the total number of barrels of oil transported from 1929 to 1933, both by gathering line and trunk line; the number of barrels transported for others having no interest in the pipe line company, and the number of shippers for whom oil was transported during those five years.

The total gross revenue received from all oil transported during the five-year period must be stated, as must also the gross revenue received for the transportation of oil belonging to shippers having no interest in the pipe lines.

In arriving at the cost of transportation per barrel-mile, which must be submitted for both gathering lines and for trunk lines for the years 1929 to 1933 inclusive, there should be itemized all costs incident to each class of transportation service. No profit or carrying charges on the cost of the property used should be included.

A history of pipe line rates, covering a period of at least 10 years, if possible, must be prepared and submitted. In compiling this gathering lines and trunk lines should be taken up separately, and handled separately in stating the reasons for any change in rates during 1933, or 1934. Charges for each service rendered must be stated separately, such as charges for storing, handling or transporting, and give the tariff reference or other basis for each charge.

A general statement regarding the practices of the pipe line companies with respect to minimum tenders for both gathering lines and trunk lines must be included.

Suspension of Buying Plan Shifts Scenery in Group 3

(Continued from Page 22)

is an abnormal spread between the low and high quotations on low-octane, the low representing the price ruling in East Texas and the high the price which Oklahoma refiners can get on short-haul interstate shipments in competition with East Texas, the difference in freight rates making this competition possible.

Natural Gasoline Firm

Brisk seasonal demand for natural gasoline kept the market in that division firm, with prices of the preceding week retained and tending to stiffen. Most of the natural manufactured in Oklahoma was moving to buyers inside the State. The movement to northern points out of either Oklahoma or Texas was reported to be relatively small. With the advent of cold weather a steady market for the naturals is in prospect.

Kerosene showed signs of weakness and prices were off an eighth. With the season for kerosene waning some refiners are switching from that material to prime white distillate. This is tending to create at least a temporary surplus of distillate.

Each year usually sees a slowing market at this period for 38-40 distillate for burning use because contracts for the winter season have been made. The chief support for the market thus falls on purchases of 1 to 5 cars by buyers who have not made contracts. Arrival of real winter weather is expected to bring a more vigorous market and higher prices. The tone of all furnace oils was reported weaker.

Fuel Oils Dull

The demand for fuel oils continued dull. Oklahoma refiners were reported to be having difficulty in finding outlets for their stocks and East Texas refiners were running theirs into pits for storage. It was regarded as unlikely there would be any substantial market for this product in East Texas till the demand for cracking stock returns, probably about the turn of the year. Kansas refiners who have been using gas oil for cracking stock were said to be showing interest in fuel oil for this purpose because of its low price.

Steadiness was reported in the lubricants, with no disposition to reduce prices. Wax was stronger, with prices up a quarter cent.

Railroad Commission Is Given New Power

(Continued from Page 8)

as certain as we were of the legislative intent. Senate bill No. 21 definitely and finally disposes of that point. The bill says: 'It is the desire of the Texas legislature that the Railroad Commission be vested with authority sufficiently to compel obedience to the conservation laws.'

"To compel obedience to the conservation laws has been our one aim, desire and intention. We have asked the legislature for additional authority only to meet new devices of knavery by which the small per cent of violators seek to cheat the majority of law-abiding citizens.

"We have always contended that a beefsteak cut from a stolen cow is still stolen beefsteak whether broiled, fried or baked. Likewise a stolen automobile painted a different color is still 'hot.' A barrel of illegally produced oil run through a heating plant is still 'hot.' Those who object to the law because it requires them to confine their transactions to the lawful channels of commerce are in effect branding themselves violators of the law.

"The Railroad Commission does not say that senate bill No. 21 is a 'cure-all.' No law was ever written which would make a bad man a good man. The commission does believe, however, and asserts, that senate bill No. 21 when put into effect would go far to prevent the running of hot oil in East Texas."

DEEP TEST HAS GOOD SHOW

MIDLAND, Tex., Oct. 2.—Gulf Production Co.'s No. 103 McElroy, Section 197, Block F, western Upton County Ordovician test, is drilling below 10,845 feet with a good showing of oil coming up through 10,000 feet of water in the hole. About 15 or 20 feet of lime drilled between 10,794 and 10,840 feet is responsible for the showing.

Oil picked up from the Slush pit tested 37 gravity after standing in the open for two days and is of a light green color. There is still some chert in the hole but it is felt a better showing will be made after solid lime is reached.

MAGNETIC STORM

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey report a moderate magnetic storm started at 3 p.m. (C.S.T.) on September 24 and ended at 8 a.m. (C.S.T.) September 27. The telegrams follow:

"Storm began twenty-fourth. Twenty-one. Moderate."

"Storm ended twenty-seventh. Fourteen."

GULF MAKES OFFER

The Gulf Oil Corp. is understood to have offered $1,050,000 to the Richfield Oil Corp. for the latter's interest in the Sherwood Oil Corp., an Atlantic Coast marketing company. In addition the Gulf will assume obligations to Richfield amounting to approximately $170,000.

Gasoline Prices in Chicago Area Upset by Offerings of Distress Material

By SPECIAL CORRESPONDENT

CHICAGO, Oct. 1.—The gasoline price situation in the central west, centering here, is believed to have been weaker in the last two weeks than in any other major market in the country. The price aspect has been so upset that it is difficult to get any satisfactory idea of what the ruling level of quotations actually is.

In the face of a large quantity of distress gasoline offerings, buying from the regular marketing trade has been slack. Apparently no particular price, regardless of how low, will tempt jobbers to purchase heavily. They are buying neither at the relatively high prices currently asked by some refiners nor at the extremely low prices named on the material from East Texas which has been a large factor here recently. Some offers of motor gasoline have been heard much below 3 cents a gallon, but it is difficult to determine how much material is represented by these low prices.

Negotiate to Buy

Some negotiations have been going on, looking toward purchase by major companies operating with the program committee of the distress material offered by carlot marketers here. However, this plan presents difficulties. It is necessary, it is pointed out, to obtain signatures to documents of a joint nature from both brokers and the original refiners, where the material is offered by brokers. Some of the majors have declined to consider such a plan, prefering to buy direct from refiners in the region of origin.

Sentiment and predictions are mixed. Some authorities consider that the current extreme weakness here may not be checked in time to prevent its weakening of the whole industry's price structure. They contend East Texas refiners will not sign the contract agreements in sufficient number to prevent the continuing infiltration of low-priced hot gasoline into the market and that this will discourage and nullify the whole movement. On the other hand, many are fairly optimistic, believing the last week or so has witnessed the extremity of the weakening movement.

Take Contract Gasoline

Jobbers, while buying relatively little in the spot market, are taking good quantities of material on their contracts. This is explained by the fact that indicated gasoline consumption in many regions has been satisfactory for this season. At the same time, general reports tend to show that the retail gallonage has been spotty and not consistent. While for the most part the psychology in the great farm areas has improved in the last six weeks, the blight of the summer's drouth is still felt in some sections, and this is affecting the oil trade, which still awaits the attitude of the oil administration on the proposed reduction of dealer margins.

Heating Oils

Good grades of heating oils remain in fairly good market position. The demand, while not quite so insistent as early in September, is moderately good. Low temperatures for the season have been reported in Minnesota, Iowa, Wisconsin and Michigan. The lower gravity heating oils are not so strong as the lighter products.

Kerosene

Kerosene is quiet. Farm demand is irregular but fairly good on the whole. Some of the lines ordinarily separating kerosene and heating oils have been broken down and the situation is mixed.

Fuels, Gas Oils

With general industrial operations continuing to be limited to low levels, there is nothing to help the heavy fuels and gas oils. Prices, while little changed, are a

(Continued on Page 44)

Crude Oil Prices

(Continued from Page 25)

Effective September 20 in Salt Flat by Shell Petroleum Corp.

Rocky Mountain States

Ilse, light (Sept. 29, 1933)	$.96
Ilse, heavy (Sept. 29, 1933)	.90
Florence, Colo. (June 17, 1933)	.80
Fort Collins and Wellington, Colo. (June 17)	(See Salt Creek prices)
Big Muddy (Sept. 29, 1933)	1.01
Frannie, light (May 1, 1934)	.70
Frannie, heavy (Sept. 29, 1933)	.62
Salt Creek and LaBarge (Sept. 9, 1933)	
See Stanolind Mid-Continent price schedule	
Grass Creek, light (Sept. 29, 1933)	1.18
Grass Creek, heavy (Dec. 15, 1932)	.45
Elk Basin (Sept. 29, 1933)	1.18
Rock Creek (Sept. 29, 1933)	1.02
Dutton Creek (July 5, 1933)	See Mid-Continent gravity prices
Lance Creek (Dec. 16, 1932)	.92
Poison Spider (Mar. 5, 1931)	.70
Hudson (June 2, 1931)	.85
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage	1.08
Lost Soldier (Sept. 30, 1933)	.88
Hamilton Dome:	
Below 18° (July 1, 1934)	.52
18° and above (July 1, 1934)	.62
Torchlight (Sept. 29, 1933)	1.18
Greybull (Sept. 29, 1933)	1.18
Pondera	1.15
Sunburst (Sept. 29, 1933)	1.25
Cat Creek, Montana	1.07
Hogback (Sept. 29, 1933)	1.11
Lea County, N. Mex. (Sept. 29, 1933)	.71
Maljamar (Sept. 29, 1933)	.70
Artesia-Jackson (Dec. 1, 1933)*	.71

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Ilse by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, 1933, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro. Hamilton Dome, Wyo., by Stanolind Oil & Gas Co.

*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	$.76
Tullos, Urania, La. (Jan. 13, 1934)	.87
Nevada, Ark. (Sept. 29, 1933)	.60
East El Dorado (Sept. 29, 1933)	.70
Converse, La. (Mar. 17, 1934)	1.03
Elm Grove, La. (Sept. 29, 1933)	.75
Holly, La. (Nov. 17, 1934)	1.03
Pleasant Hill, La. (Mar. 17, 1934)	1.03
Zwolle, La. (Mar. 17, 1934)	1.03
Champagnolle, Ark. (Mar. 17, 1934)	.81
Lisbon, Ark. (Mar. 17, 1934)	1.03
Stephens, Ark. (Sept. 29, 1933)	.70
Urbana, Ark. (Mar. 17, 1934)	.60
Other fields	(See gravity table)

Note—Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urbana posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co.; Pleasant Hill by Standard Oil Co. and Magnolia Petroleum Co.; Champagnolle by Standard Oil Co. and Lion Oil & Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective May 1, 1934)

Bradford, Pa.	$2.55
Allegany, N. Y.	2.55

SOUTH PENN OIL CO.
(Effective May 1, 1934)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.55
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.32
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.17
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2.07
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 2, 1933)	1.32

PENNZOIL CO.
(Effective May 1, 1934)

Pennsylvania Grade Oil In National Transit Lines:	
Group A	$2.47
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2.40
Includes Titusville district.	
Group C	2.40
Includes Turkey and Tidioute districts.	
Group D	2.44
Includes Bear Creek and Porkey districts.	
Group E	2.42
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacey and Kinsua districts.	
Price depends on length of pipe line haul to plant at Oil City.	

PURE OIL CO.
(Effective May 1, 1934)

Cabin Creek, W. Va.	$2.17
Bradford Hollow, W. Va.	2.17
Kelly Creek, W. Va.	2.17

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)

Lima	$1.30
Illinois (Jan. 5, 1934)	1.13
Princeton, Ind. (Jan. 5, 1934)	1.13
Plymouth	Shut in
Western Kentucky (May 16, 1934)	1.06
Midland, Mich. (Sept. 30, 1933)*	1.03
Oceana, Mich. (Oct. 5, 1933)	.90
Somerset, Ky. (Sept. 30, 1933)	1.23

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (September 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (May 21, 1934):†	
Clear naphtha	$2.55
Discolored naphtha	1.87
Crude oil, 50 gravity	1.19
Crude oil, 45 to 49.9	1.07
Crude oil, 40 to 44.9	1.00

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$0.90

*F.o.b. ship, based on August transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	$.65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.66	.72	.72	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.68	.78	.80	.76	.79	....	.75	.74	.74	.68	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.82	.87	.83	.85	....	.81	.82	.81	.68	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.86	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.93	.97	.94	.95	$.93	.89	.92	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.06
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standard Oil Quotations

Mountain View—Effective July 3, 1934, the following are the prices of the Standard Oil Co. of California for its current purchases of crude oil at the well in the Mountain View Field; 14 to 19.9 degrees, 57 cents; 20-20.9, 58 cents; 21-21.9, 59 cents; 22-22.9, 61 cents; 23-23.9, 62 cents; 24-24.9, 66 cents; 25-25.9, 69 cents; 26-26.9, 72 cents; 27-27.9, 75 cents; 28-28.9, 78 cents; 29-29.9, 81 cents; 30-30.9, 84 cents; 31-31.9, 87 cents; 32-32.9, 90 cents; 33 degrees and above, 92 cents.

Elwood Terrace—F.o.b. ship, 32 degrees, $1.03; 34 degrees, $1.08; 35-35.9, $1.09; 36-36.9, $1.13; 37 degrees and over, $1.15.

Newhall—14 degrees and over, 57 cents.

McKittrick and Kern River—14 degrees and over, 57 cents.

Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.

Kettleman Hills—23-23.9 degrees, 93 cents; 24-24.9, 96 cents; 25-25.9, 99 cents; 26-26.9, $1.03; 27-27.9, $1.06; 28-28.9, $1.08; 29 degrees and over, $1.11.

The Texas Co. posted in Shiells Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 35-25.9.

Union Oil Co., effective September 6, posts same price as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 31-31.9, 73 cents, and 32-32.9, $1.16; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 24 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 25 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 52 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

Small Drilling Rigs Are Shallow Area Factor

By L. E. BREDBERG

FORT WORTH, Tex., Oct. 1.—During the recent drought small drilling rigs were increasingly used in drilling shallow Archer County wells. About 200 bbls. of water was all that was necessary for cooling the motors on the small rigs. These wells are drilled from 1,200 to 1,500 feet and are located mostly in the lime producing areas where operators and companies have been carrying on extensive drilling campaigns for over a year, or since acid began to play an important part in the production of oil in the North Texas district.

Another factor that made these small portable rigs a great factor in drilling in these areas was the low cost for fuel. The smaller rigs used an average of only $65 worth of gasoline in the motors furnishing power for drilling. These portable rigs are becoming more and more popular, especially in the shallow producing areas where it takes only a few days to drill a well.

The small rig is mounted on a 7½-ton truck generally of International Harvester make, equipped with a DHK Waukesha six-cylinder motor, developing about 112 horsepower at 1,150 r.p.m. Another similar engine is used on the truck and a connecting drive between the two engines permits as much as 225 horsepower, less friction losses, to be delivered to the drawworks. Either engine can be used to operate both the mud pump and the rotary table, or pull the tools out of the hole. Only four men are used on the crew on each of these portable rigs.

Quick Setup

Operators of the machines claim they can drive to a location and be drilling within one-half a day after arrival and on a well drilled on a lease near Ellinwood, Wharton County, Kansas, Helmerich and Payne, drilling contractors of Tulsa, drilled 210 feet, set and cemented 12½-inch casing in one day's time. The cement was allowed to set for three days before drilling was resumed. Using Reed Sport Model rock bits with two-three-piont reamers following, the company carried the hole to 1,760 feet in three days drilling. The well was completed, including setting casing, cementing same, and connecting up, in 18 days, and the major portion of this time was required for coring the last 500 feet. A 7⅞-inch hole was drilled and 5½-inch pipe set, 4-inch drill stem being used in drilling.

The portable rig is speedy but has the safety factor of the high gear used in coming out of the hole. If pipe is stuck or anything else goes wrong to cause a heavy pull on the drill pipe, the motor is stalled by the pull instead of pulling pipe in two or causing some other serious trouble. However, if the operator wants to put more force into the pulling job, all that is necessary is to change to a lower gear. Pipe has been parted by one of these small rigs when a lower gear was used. Another safety factor is a free rolling (Timken roller bearing) drum which can be disengaged when desired. This drum also speeds up drilling as tools and pipe can rapidly be dropped into the hole.

Complete Units

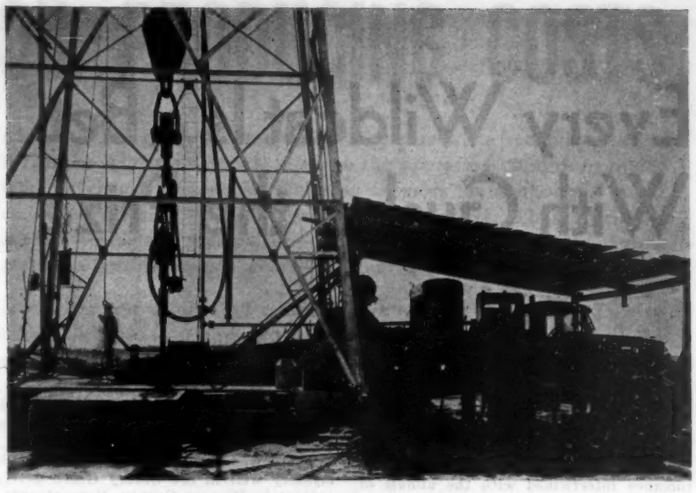
As mentioned, a 112-horsepower Waukesha, or any kind of a motor that an operator desires, is placed on the truck bed for power for the drilling machinery. A Wilson-Snyder 5x12-inch mud pump and portable drawworks is also mounted on the truck. This drawworks has eight speeds, forward and reverse. A 1½-K.W. Kohler lighting unit on the truck supplies the rig with light. The truck is backed up to the derrick, 96-foot derricks being generally used in connection with the rig, and the derrick sills take the weight off the back end of the truck. The truck is then jacked up immediately under the mud pumps and front so as to take practically the entire weight off the truck when drilling. The chains used on these rigs are similar to those used on farm machinery and therefore it is easy to make repairs or replacements when drilling in a farming community where hardware stores carry such spare parts.

Only one auxiliary truck is used in connection with these drilling rigs. The truck is generally small, hauls the water for the motors and carries miscellaneous materials and some of the equipment when locations are changed.

Such a rig is now being used in the Breckenridge, Texas, Field to clean out old wells preparatory to acidizing. The average depth of these holes is 3,100 feet and the cleaning out time is about five days.

These rigs were designed and developed by John Wilson of the Wilson Manufacturing Co. of Wichita Falls, and at the present time the company is working on two larger units designed to drill to 5,000 feet. These rigs will be sent to West Texas and old Mexico.

Slush pump mounted upon truck bed driven by Waukesha gasoline motor unit



General view of portable power unit mounted upon trucks used in Kansas and Texas

Inhibitor Dyes in Cracked Gasoline Are Used for Stabilization and Color

The extensive use of dyes in gasoline and the successful application of antioxidants to the stabilization of cracked motor fuel have led to the idea of combining both the coloring and inhibiting functions in a single substance.

Research on this subject was reported recently in a paper presented at the annual meeting of the American Chemical Society by C. D. Lowry, Jr., Gustav Egloff, J. C. Morrell and C. G. Dryer of the Universal Oil Products Co.

Systematic work on inhibitors for cracked gasoline has furnished a background of information regarding the groups desirable in compounds intended for this use. On such a basis, several essential properties of inhibitor dyes were fixed. They must be oil soluble, and as they must contain structures imparting inhibiting value, many of the common dye intermediates such as β-naphthol and resorcinol must be avoided.

α-Naphthol, hydroquinone, catechol and other inhibitors were used as bases for the synthesis of various dyes. As these dye inhibitors were synthesized, they were tested for antioxidant power and their cyclohexene numbers were determined. This measure of inhibiting value was developed in connection with the project.

The cyclohexene number, to quote the authors, is the increase in induction period produced by 0.01 per cent of an inhibitor in a reference gasoline which has been standardized in its response to inhibitors by comparing its susceptibility to α-naphthol with that of cyclohexene Each dye sample was dissolved in 1 c.c. of solvent before addition to the 200 c.c. gasoline sample.

The largest group of dyes studied were azo dyes. These were prepared from α-naphthol, catechol, phenol, pyrogallol and 1, 5-dihydroxynaphthelene. It was found that the cyclohexene number was greatly reduced by the presence of an azo or nitro group. A hydroxyl group, on the other hand, strengthened the inhibiting power of the compound.

The effect of these groups is shown in the tests of the following substances:

	Solvent	Cyclohexene number, minutes	Color in gasoline
Pyrogallol	Hexone	975	Colorless
p-Nitrophenylazopyrogallol	Hexone	125	Orange
1, 5-Dihydroxynaphthelene	Hexone	950	Colorless
p-Tolylazo-1, 5-dihydroxynaphthelene	Hexone	225	Red-Brown
α-Naphthol	None	610	Colorless
p-Nitrophenylazo-α-naphthol	Hexone	20	Brown
Catechol	Hexone	745	Colorless
Phenylazocatechol	Hexone	460	Yellow
p-Nitro-phenylazocatechol	Hexone	140	Brown
Leuco phenol indophenol	Hexone	1415	Nearly Colorless
Phenol indophenol	Hexone	1330	Red

Indophenol dyes were also studied. Two of them, phenol Indophenol and Phenol Blue were found to be very effective antioxidants. When an indophenol is reduced to its corresponding leuco compound, which is colorless, a very powerful inhibitor is produced. This leuco compound, when added to gasoline, deepens the color of the mixture as induction proceeds. This is due to the primary oxidation of the leuco compound back to the indophenol dye. As oxidation continues, however, and all of the leuco compound becomes converted to dye, the color again fades as in other dye mixtures. The commercial advantage of the leuco indophenol is therefore evident.

Many dyes possess such relatively small inhibiting properties that to use them in a concentration which would properly protect the gasoline would produce an excessively dark color. It is therefore advantageous to add only sufficient dye to give the desired tint to the gasoline and complete the protection with some other colorless inhibitor.

A chemical phenomenon encountered in the oxidation of two such compounds adds to the practicability of using the two inhibitors. Experiments have proved that when two inhibitors are used together to protect material sensitive to autoxidation, they act simultaneously and as a consequence both are oxidized. Thus the concentration of the dye which may be measured by its color depth, is also an index of the concentration of the colorless inhibitor.

Every Wildcat Is a Bet With Gusher the Prize

By T. F. SMILEY

This well was drilled to a depth of 400 feet near Oil City, Pa., and got oil. The contract price for the entire drilling job was $200

Every wildcat well is of course a gamble and inevitably the drilling of such a well is attended by the thrills that go with the play of chance.

Big wells have provided much of the romance intertwined with the annals of oil. Sometimes, especially in the early days of the industry when hunches played a larger role than science in the selection of well sites, they brought sudden wealth, transition over night from penury to luxury. In recent years they usually have been the result of carefully worked out hypotheses of the geologist and the geophysicist.

It has been said that if gusher wells produce the romance and dry holes the tragedy of the oil business, there is less than 1 per cent romance as against 25 per cent tragedy.

No attempt will be made here to enumerate all the famous big oil wells or to relate the dramatic stories connected with them. It is designed simply to set down some of those that made records in various producing divisions of the United States and provided thrills in their day.

While the oil industry was young phenomenal wells—phenomenal in that fledgling period—were many for the simple reason that few precedents had been established and any striking feature drew wide attention. Volumes could be filled with accounts of wells which for one reason or another created excitement.

In his "Practical Treatise on Coal, Petroleum and Other Distilled Oils," published in 1865, Dr. Abraham Gesner said: "The estimated yield of petroleum at the present time by the oil wells in the United States is 6,000 bbls. per day. Though certain wells have for a short period yielded 1,000 bbls. per day, the average yield of all will not be much over 5 bbls. An oil well yielding 100 bbls. per day is not a common thing to find in the oil region; half that quantity would be considered a very good yield."

So it didn't require much to start the hoorays and the hat throwing.

First Third-Sand Well

By way of indicating the kind of well over which the country was ready to go wild in that immature period Capt. A. B. Funk's "Fountain well" might be mentioned. This early oil man was called "Captain" because at one time he operated a few small steamboats on the Youghiogheny River in Pennsylvania. Following the successful issue of Colonel Drake's enterprise on Watson Flats in August, 1859, Captain Funk bought the David McElhaney farm of about 100 acres on Oil Creek for $1,500 and one-quarter of the oil. Soon afterward he began drilling and in May, 1861, he completed the Fountain well, the first in the Pennsylvania oil region drilled to the third sand and starting off at 300 bbls. a day. After realizing hundreds of thousands of dollars from his wells Captain Funk sold the whole property in 1864 for $100,000 and retired, devoting the rest of his life largely to philanthropies.

There was I. N. Frazer's well on the Thomas Holmden farm on Pithole Creek near Oil City, Pa., which on January 7, 1865, began flowing 650 bbls. a day, starting Pithole on its meteoric career. Within 90 days a city of 16,000 stood where there previously had been scattered farm houses. Its life was short and riotous. A few years later scarcely a vestige of the town remained.

There was Grace & Dimmick's famous mystery well in the Cherry Grove development in Warren County, Pennsylvania, in 1882, which opened up a new white sand field which within four months had a production of 40,000 bbls. a day, a stupendous production for that time.

There was the spectacular Semple, Boyd & Armstrong No. 2, which October 2, 1884, was estimated to have spouted 8,000 bbls. of oil in the first 24 hours after being shot and started the Thorn Creek excitement.

Present day statistics of production in Pennsylvania, West Virginia, Ohio and other eastern states give no indication of the resources of those fields in days gone by. It may surprise many to know that a well drilled over 40 years ago in Ohio held the record for high initial production for almost a quarter of a century and that two wells completed long before that in southwestern Pennsylvania stood as the greatest producers of high gravity crude for a generation.

Big and Little Wells Side by Side

There have been wells that paid their owners millions of dollars in profits, while close to them were small producers that soon played out and were abandoned. These are freakish incidents. Large producers of high gravity oil that maintain their big output over a long period are usually freaks. Such a well was the Gypsy Oil Co.'s No. 5 Shumway, in Butler County, Kansas, believed to have been drilled into a crevice in which an enormous quantity of petroleum had been deposited. The operator getting such a well knows that luck was with him in selecting the spot for his location.

There have been many short-lived wells of large initial production, like those in the Powell Field, in Navarro County and the Texas Field in Limestone County, Texas, which started off at an estimated production of 18,000 or 20,000 bbls. a day, but which soon settled down to a stage where interest in them was lost.

Some of the big wells opened pools, others were drilled in proven territory.

The practice in Oklahoma in recent years of applying proration to wells in flush and semiflush fields makes it difficult, if not impossible, to point to any one well in such a field as the largest producer in it. It can be said, however, that the largest recorded production for one well in Oklahoma is that of No. 1 Ross, brought in by Oils, Inc., October 4, 1930, in the Oklahoma City Field. This well in 1 hour and 25 minutes gauged an initial production of 6,239 bbls., which is at the rate of 105,696 bbls. a day. The proration umpire's records showed that this marvelous well had yielded under restricted flow a total of 1,335,882 bbls. of oil up to the end of June, 1934. It probably is safe to give the No. 1 Ross top place among potential oil producers in Oklahoma.

When "Wild Mary" Blew In

The most spectacular well in the Oklahoma City Field was the Indian Territory Illuminating Oil Co.'s No. 1 Mary Sudik, which blew in as a gusher March 25, 1930. The well, in the south end of the pool, began producing dry gas at a depth of 6,471 feet, but it drilled itself deeper and began spraying oil, some of which was carried by wind for several miles. Oil men estimated that the well was flowing 2,000 bbls. of oil per hour and gas at the rate of 200,000,000 feet per day. Residences and field offices in the neighborhood were abandoned and all nearby drilling tests were shut down. The crew had been pulling the tools when the well blew in, and 20 joints of drill pipe, thrown out of the hole, remained twisted in the derrick. "Wild Mary," as the well was dubbed, was brought under control after running amuck for 11 days. A 13-hour gauge showed production of 28,000 bbls. of oil a day.

The Gypsy Oil Co. and Frank Gillespie's No. 11 Jackson Barnett, SE SE Section 5-17-7, Cushing Field, Creek County, held the record of being Oklahoma's largest producer for 10 years. It came in February 7, 1916, at the top of the Tucker pay at the rate of 4,000 bbls. a day, gradually increasing to 300 bbls. an hour the same day and increasing the next day to an estimated production of 14,000 bbls. daily. An exact record of its production was not kept.

This was one of the wells which contributed to the wealth of Jackson Barnett, eccentric Indian, who died early this year and whose financial affairs were a subject of litigation. It continued to hold its record as Oklahoma's biggest producer till the Sinclair Oil & Gas Co.'s operations in the Garber Field, Garfield County, shoved it from first place.

Couldn't Gauge Flow

Sinclair Oil & Gas Co.'s No. 27 Hartley, NW NW Section 18-22-3w, in the Garber, Okla., Field, started flowing March 26, 1926, at a rate which made it impossible to gauge it at first. Its largest recorded production in one day was 25,867 bbls. of high gravity oil, which made it the biggest well in the Mid-Continent area at the time. Its total production for 10 days was 209,218 bbls. The oil yielded 40 per cent gasoline by straight distillation and 70 per cent by cracking. The unexpected performance of this well did not lead to the drilling of one additional hole. One offset already had been completed about 200 feet deeper, but it produced only 400 bbls. of oil.

The Midco Petroleum Co.'s No. 10 Benoche Fixico, Section 17-18-7, in the Cushing Field, gauged 10,484 bbls. in a day. It was a Bartlesville sand well, drilled deeper to the Tucker sand in July, 1915. The Hill Oil & Gas Co. completed a well on the Sawyer farm in Section 27-17-7, Cushing-Shamrock Field, in June, 1916, which was estimated at 12,000 bbls. in its initial stage. It also produced 30,000,000 feet of gas a day. C. B. Shaffer drilled a 10,000-bbl. well on the Bruner farm in Section 33-17-7, in the same month.

The Gypsy Oil Co.'s Boston lease, in Section 1-21-7, Osage County, showed one well that started at 8,000 bbls. from the second break in the Mississippi lime, now usually spoken of as Wilcox sand, but the biggest initial producer in Osage County was drilled in 1920 by the Minnehoma Oil Co., in Section 14-26-8, estimated at 14,000 bbls. a day. It was drilled to the second break in the lime and a big well was not expected. The oil ran over the prairie. By order of the Indian agency it was shut in, and this killed it. Other wells drilled close to it never found the big production. The Mississippi lime furnished all the very large initial producers in the Osage Nation, but none of them lasted long as gushers.

The Cromwell Field in Seminole County, Oklahoma, got the center of the stage when the Cosden Oil & Gas Co. completed its No. 1 Jim Wallace as a 30,000,000-foot gas well November 11, 1922. Although it was pre-eminently a gas field, it got its name from the Cromwell Oil & Gas Co., which October 2, 1923, completed the first oil well in the field. Its initial production was only 312 bbls. daily. The first big well in the field was completed in March, 1924, by T. B. Hoffer and Harry C. Pouder for 4,600 bbls. of high gravity oil and it was one of the best.

Seminole and Proration

The Seminole Field in Oklahoma is the one whose enormous flush production resulted in the adoption of a proration program which later was extended to other areas. One well which achieved outstanding fame was the one completed July 26, 1926, by the Independent Oil & Gas Co. and Robert F. Garland, and opening the prolific Wilcox sand. It had an initial production of 6,120 bbls. The field developed with startling swiftness, production being increased 1,300 per cent in the next six months. Wells yielding 14,000 bbls. were reported.

Tonkawa Led Kansas Fields

The Tonkawa Field in Butler County supplied all the unusually large initial producers in Kansas. The Gypsy Oil Co. on September 8, 1917, brought in its No. 5 Shumway, in Section 11-26-4, the well starting off at 15,000 bbls. a day. It produced 10,000 bbls. a day for months and by the time it quit flowing had produced 2,250,000 bbls., making it one of the largest wells ever developed in this country up to that time. The same company's No. 13 Shumway was a 17,000-bbl. well in its initial stage, but it soon fell off. The Trapshooter Oil Co. and the Empire Gas & Fuel Co. are credited with wells starting around 15,000 bbls. but they were of short life as gushers.

North Central Texas Boom

Among the many large wells drilled in the North Central Texas Field in the boom days of 1920 and 1921 it is gen-

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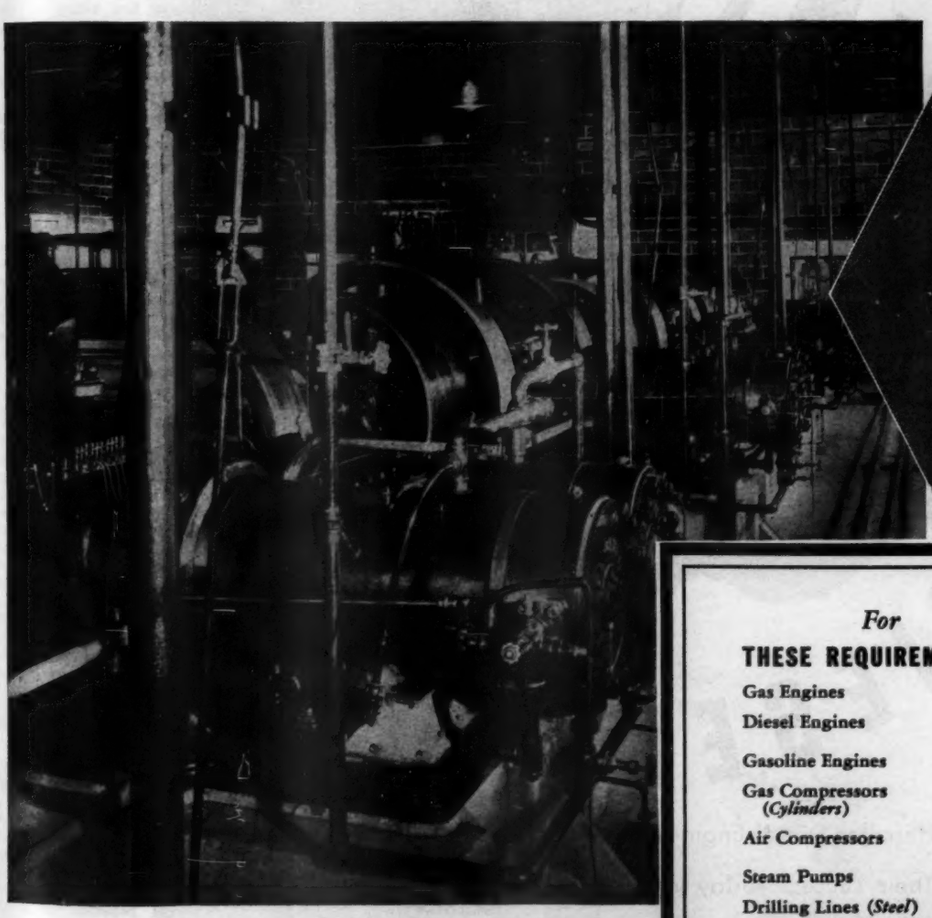

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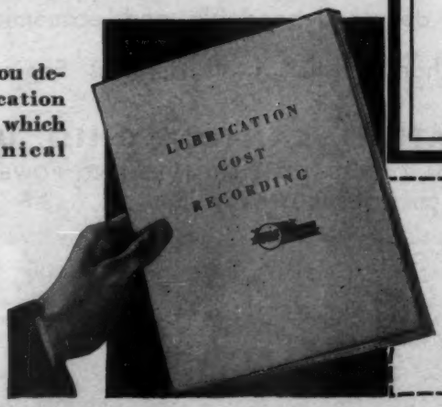

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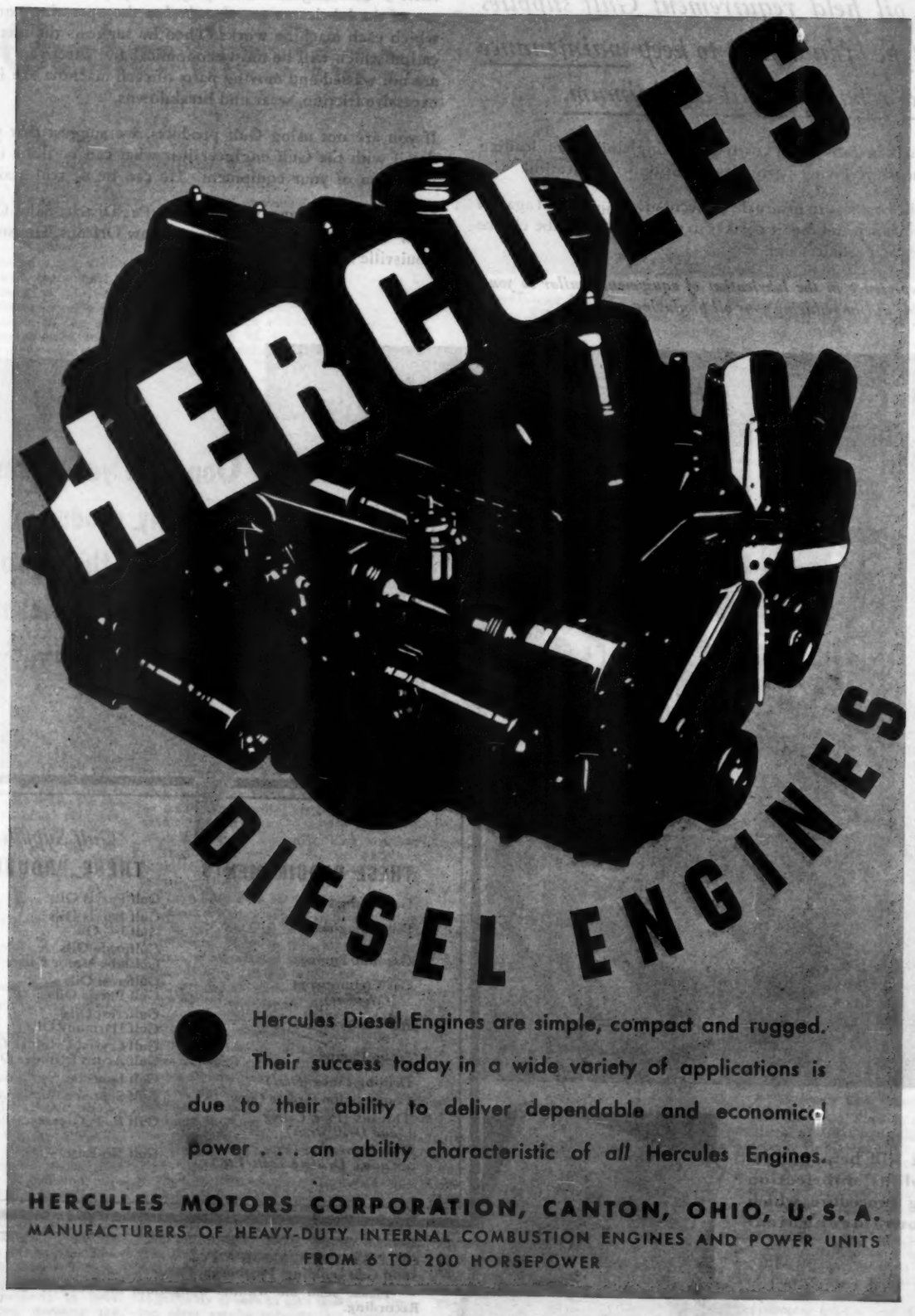

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erally agreed that the premier performer for initial production and for a period of 30 days, was the Gulf Production Co.'s No. 2 K. Stoker, NE SE Section 20, Lunatic Asylum lands, 2 miles south of Breckenridge. It was a semiwildcat, the nearest producer being the same company's No. 1 Stoker, a quarter of a mile south, which was only a 50-bbl. well at its completion. No. 2 was completed at about the same depth as No. 1. It made 515 bbls. the first day but was drilled a foot deeper and then flowed 14,000 bbls. the following 24 hours and produced over 300,000 bbls. of oil in 30 days. The gravity of the crude was above 38 degrees. The sand lay at 3,075-90 feet, the production being the regular Caddo gray lime.

The largest North Central Texas long-term producer was drilled by the Plateau Oil Co., one-half mile southeast of Breckenridge, Stephens County. It was No. 1 on the Ward farm, an 80-acre lease. It came in May 23, 1920, and flowed 4,800 bbls. the first day. It averaged that quantity of crude daily for 12 months and was making 5,000 bbls. a day at the close of the year. Three years later the well was flowing 105 bbls. of oil, 600 bbls. of water and producing 3,000,000 feet of gas. The oil was of 38 gravity. It got sand at 3,070-80 feet, a gray lime formation. Offsets drilled by the Texas Co. and the Gulf Production Co. were small wells and had no effect on the production of the Plateau Oil Co.'s freak producer.

Big Wells Mark Gulf Coast

Big wells have marked Gulf Coast territory ever since the Spindletop Field, near Beaumont, Tex., was opened by Capt. Anthony F. Lucas' discovery January 10, 1910. When a layer of rock was penetrated a solid column of oil 6 inches in diameter is said to have shot up 150 feet into the air. The flow continued 10 days before the drilling contractors managed to stop it. In the meantime in the hope of saving as much of the oil as possible dikes were built to dam it up against a railroad embankment half a mile west of the well. But the dam broke and about 300,000 bbls. of oil spread out over the terrain before another and stronger one was built. Another 300,000 bbls. had been accumulated in addition to small pools scattered over a large area when, on March 3, a passing locomotive ignited oil-soaked grass and a fire of spectacular grandeur started. The flames destroyed workmen's boarding houses, several derricks and rigs and all the dammed-up oil. When it became certain that there was no chance of saving the oil Captain Lucas and his associates started a counter fire a mile below the oil lake. When the two fires met there was an explosion which threw blazing oil high into the air.

Estimates of the Lucas gusher's production have ranged from 50,000 to 100,000 bbls. a day. According to one record an estimate of the flow was made after the well had been brought under control by running the oil into a 35,000-bbl. tank. This tank is said to have been filled in a little less than 12 hours, so the estimate of 70,000 bbls. a day is the one commonly accepted. However, in the absence of actual gauges all initial production figures relating to the Spindletop wells must be accepted with reservations. A well drilled by Heywood Brothers was reported to have produced 90,000 bbls. a day.

Started Off With Large Producers

The Sour Lake Pool in Hardin County, Texas, 25 miles northwest of Spindletop, started off in 1903 with big wells, but its largest initial producers came in 1913 when completions as high as 15,000 bbls. were reported and in 1917 the Gulf Production Co. and Humble Oil & Refining Co. brought in a 15,000-bbl. producer in No. 15 Hardin on the north side of the pool and the Yount-Lee Oil Co.'s No. 6 Merchant was good for 12,000 bbls.

There is something prophetic in the words of Dr. Abraham Gesner, written in 1865: "Tennessee, Georgia, Alabama, Missouri, and Texas are known to contain petroleum springs. Sour Pond, so called from the circumstance that during part of the year the waters are acid to the taste, is a pitch lake resembling that of Trinidad. It is between Beaumont and Liberty in the latter State."

In the Saratoga Pool, 10 miles northwest of Sour Lake, in 1904 the Producers Oil Co.'s No. 84 came in at 10,000 bbls. and later the Austin Oil Co. completed No. 1 Moore with an initial production of 12,000 bbls., but it sanded.

The shallow sand Batson Pool, 8 miles west of Saratoga, opened in 1903, developed big initial producers, the largest having been the Paraffine Oil Co.'s No. 3, rated at 15,000 bbls.; Guffey Petroleum Co.'s No. 1 Brill, 18,000 bbls., and the Prairie Oil Co.'s No. 1 Brill, 12,000 bbls. The last named went to water in less than a month. In 1904 the Producers Oil Co.'s No. 1 Moonshine started at 28,000 bbls.

The Humble Pool in Harris County, Texas, also had its share of gushers, the largest having been a deep sand well of the Farmers Petroleum Co., No. 16 Stevenson, completed in 1915 with a production of 24,000 bbls.

Deep Sand in Goose Creek

In the Goose Creek Pool, Harris County, a deep sand was found in 1916. The best well in that field was drilled in 1917 by E. F. Simms & Co., No. 11 Sweet, credited with an initial production of 35,000 bbls.

In the Pierce Junction Pool, Harris County, Snowden & McSweeney's No. 1 Cain, completed in July, 1921, flowed 100,000 bbls. in a month, while R. E. Brooks completed another as good in No. 1 Howe, and the Texas Exploration Co.'s No. 4 Dooley was a 6,000-bbl. well.

The Rio Bravo Oil Co.'s No. 6 fee is entitled to a place in the Pierce Junction Pool's list of big wells by reason of its steady production over a long period. This well, completed December 4, 1926, at 3,653 feet in the Miocene and later deepened to 4,141 feet in the Oligocene, had produced up to July 1, 1934, 1,285,299 bbls. of oil.

In the West Columbia Pool, Brazoria County, Texas, the Humble Oil & Refining Co.'s No. 1 Giraud completed a well at 3,030 feet which started at 7,000 bbls. and increased to 10,000 bbls. This was in 1918 and the following year a 10,000-bbl. well was completed at 3,050 feet by the Texas Co. in its No. 2 Arnold. These were on the south side of the dome. Later the Humble Oil & Refining Co., on the Japhet 20 acres, on the east side of the dome, brought in an 18,000-bbl. initial producer.

The best well in the Orange Pool, Orange County, Texas, was the Humble Oil & Refining Co.'s No. 5 Chesson, which produced 400,000 bbls. before it sanded up at the end of 26 days. The Sun Oil Co.'s No. 3 Gunstream got a sand at 3,450 feet which yielded 210,000 bbls. in 35 days and was still going strong at the end of that time.

Couldn't Interest Anybody in Conroe

The well which probably will be remembered longest in the Conroe Field, Montgomery County, Texas, is the discovery, brought in December 13, 1931, by George W. Strake. The Strake No. 1 South Texas Development Co. was a distinct wildcat, drilled in the face of unfavorable reports of geologists. Mr. Strake, who had studied the region, was convinced of the presence of oil. Failing in efforts to interest large operating companies and others in leases he had obtained, he spudded in a test himself August 30, 1931, one day before his leases would have expired, having decided to "trust to God that his money would hold out." The well came in at 4,991 feet with an initial flow of 14,000,000 feet of wet gas and 100 bbls. of 55 gravity oil daily. The oil was an almost water-white distillate containing about 90 per cent gasoline and 10 per cent kerosene. For three months the well poured gas into the air, oil men believing it to be a freak, which would play out soon. Eventually the daring wildcatter was able to incorporate the Strake Oil Corp., and in March, 1932, he sold 4,368 acres of leases, including the discovery well, for a reported consideration of $3,500,000. In 1933 the Conroe Field produced 21,518,456 bbls. of oil.

Took Them All to Kill Crater Well

The Conroe Field has been drilled and produced under the strictest control. All the wells are about the same size. All were brought in on about a quarter-inch to a half-inch choke with the initial production ranging from 50 to 125 bbls. an hour. After the first hour they were cut down to their respective allowables. There have been no big gushers.

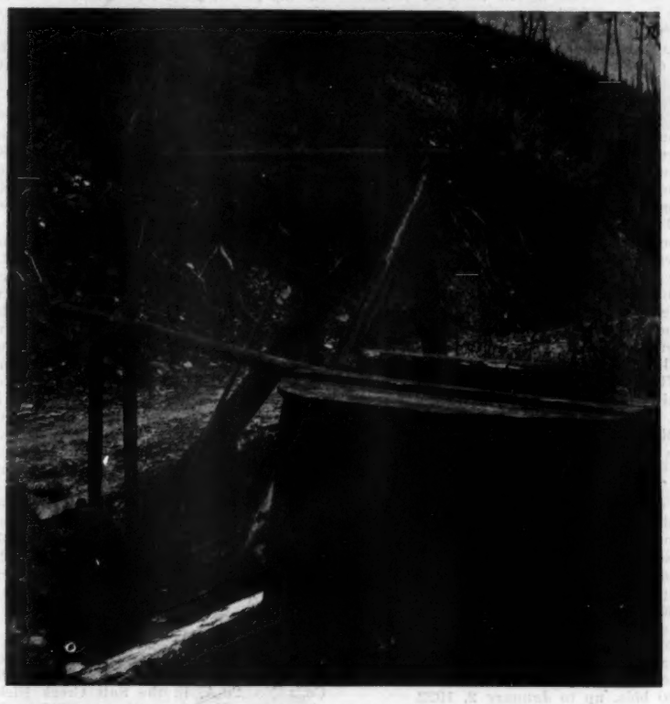
One other well besides the discovery, however, has a place in the hall of fame, that one being Harrison & Abercrombie's No. 1 Alexander, the famous "crater" well, on which all the operators of Conroe had to combine forces to kill. It was completed in December, 1932, in the regular Conroe pay at 5,097 feet, making an average well, completed in the regular fashion. Late in January, 1933, it blew out around the outside of the casing, presumably from high pressure gas migrating through the shallow sands and breaking through up around the casing. The well quickly cratered, and the christmas tree and pipe sank from sight before operators could kill the well. In the two weeks from the time it cratered the well produced from the crater a total of approximately 40,000 bbls., this being recovered in earthen reservoirs and pits, hurriedly dug.

The well then quit flowing. It was presumed the christmas tree under its own weight fell over, bending the pipe in such a way as to pinch the flow.

However, on June 19 the well started producing again. This time it is supposed the christmas tree and pipe broke entirely off, leaving the well completely out of control at the bottom of a crater 150 to 175 feet across. The well flowed unrestrained until January 9, 1934, when it was killed by the pumping of water into a relief well drilled with a deflected hole. In that period it produced a total of 1,225,000 bbls. At times it flowed as high as 12,000 bbls. daily and at the time it was killed it was flowing around 6,000 bbls. daily. All the oil was recovered. The relief well was drilled by a group of other companies in the field, headed by the Humble Oil & Refining Co., which purchased the crater well and the drilling unit of 15 acres on which it was located, from Harrison & Abercrombie.

The Jennings Pool, in Coastal Louisiana, opened in 1902, boasted one 10,000-bbl. well, the Jennings Oil Co.'s No. 5. The Wilkins Co.'s No. 2 Latrielle produced over 2,500,000 bbls. in 1905 before it quit flowing. It started at 7,000 bbls. Heywood Brothers' No. 4, starting at 1,000 bbls., produced over 1,000,000 bbls. before it quit flowing.

The Vinton Pool, Louisiana, opened in 1908, furnished 30 wells that ranged from 4,000 to 13,000 bbls. per day from 1910 to 1918.



The Colby well, on Oil Creek, at McClintockville, near Oil City, Pa., was drilled in 1861 and is still producing. It is the oldest producing well in the world

Yates Pool Astonished Them All

The oil industry has produced few greater surprises than the Yates Pool in Pecos County, Texas, where the discovery well blew in October 29, 1926, on the cattle ranch of Ira G. Yates on his sixty-seventh birthday. It was the precursor of wells of enormous productivity. There are today in the pool close to a dozen wells each with a daily potential of 100,000 bbls. or more. The shallow depths at which the oil is produced astonished even the geologists who surveyed the region.

The biggest well in the Yates Field was completed July 12, 1929, by the Marathan Oil Co. This well, No. G-30, on the I. G. Yates A lease, SF 12,341 Survey, struck the top of the pay at 975 feet and went to a total depth of 1,070 feet. A gauge showed an initial production of 7,705 bbls. an hour, or 184,920 bbls. a day. Up to the close of June, 1934, this marvelous producer had yielded a total of 4,102,678 bbls., much of it under proration restrictions. Prior to this the champion well of the pool had been the Marathon Oil Co.'s No. E-5 well on the I. G. Yates D lease, Section 62, completed July 7, 1928. The E-5 got the top of the pay at 1,230 feet and was bottomed at 1,265 feet. A gauge showed it was producing at the rate of 146,304 bbls. daily. Its recovery up to the end of June, 1934, was 6,437,722 bbls.

Marathon's E-5 was elbowed out of second place in the Yates Field in May, 1934, when the Midland Production Co. completed its No. 1 Fred Turner, Jr., on a 3.97-acre vacancy strip which had been awarded the year before by a court decision. This new well, which topped the lime at 1,125 feet and was bottomed at

1,346 feet, had an initial flow at the rate of 6,600 bbls. an hour, or 158,616 bbls. daily.

The Red Barn, at one time headquarters for the Yates ranch, grew into a thriving village, with postoffice, stores, and filling stations. Two miles up the Pecos River from Red Barn, Mr. Yates laid out what is now the busy town of Iraan, which has several thousand inhabitants, with business houses, restaurants, ice plant, theaters and so on. The name was formed from the cattleman's own first name, Ira, and two letters from that of his wife, Annie.

The Big Lake Field, in Reagan County, Texas, opened in May, 1923, and famous for the depth of a few of its wells rather than for their yield, nevertheless contributed some big producers. At the top of these is the Group No. 1 Oil Corp.'s No. 4-B University, completed in January, 1931. Under voluntary curtailment by the operating companies in the field, the No. 4-B produced 9,500 bbls. of oil and 65,000,000 feet of gas daily.

East Texas and Demoralization

The East Texas Field, opened September 8, 1930, by C. M. Joiner on the Mrs. Daisy Bradford land after he had abandoned two dry holes, added a grandiose story to the chronicles of petroleum, but it is a story tainted with the scandal of "hot" oil and with demoralization of both crude and refined markets. Production figures, even those credited with a fair degree of accuracy, vary widely. Nobody knows how much illegally produced oil was sneaked out of the field. The flood of crude from East Texas brought the price to 10 cents a barrel early in 1933. There were many large wells. Typical of these was E. W. Bateman's No. 1 Lois Della Crim, which drilled itself in December 30, 1930, with a yield estimated at between 10,000 and 15,000 bbls. from a depth of 3,650 feet. The Oil and Gas Journal's estimate of the field's total production in 1933 was 202,869,340 bbls., and this probably was low.

Pennsylvania's Record Well

Greenlee & Forst drilled the biggest initial producer ever finished in Pennsylvania, on the James Meavey farm, 2 miles west of Oakdale, in the McDonald Field, Allegheny County. It was drilled into the Fifth sand at a depth of between 2,400 and 2,500 feet on September 26, 1891, and started at 150 bbls. an hour, increasing this shortly to 650 bbls. an hour. The gusher production was altogether unexpected and for two days the well flowed wild. Only a part of the oil was saved by throwing a dam across a run that led to Robinson Creek. Most of the crude went down the creek. When placed under control the well made 14,000 bbls. a day. It did not hold up long as a big producer because of pipe trouble. It was sold to the South Penn Oil Co. and settled down to half a barrel a day.

The largest ultimate producer of oil in the field was J. M. Guffey, Michael Murphy and Jennings Brothers' No. 1 J. J. Matthews, drilled in July 5, 1891. It started at 40 bbls. an hour, but when drilled deeper it flowed with such force that it tore off the casinghead and for two days was beyond control. When an accurate gauge could be taken the well demonstrated a production of 500 bbls. an hour and it was estimated as a 12,000-bbl. well. Its flush production soon went down, but it recorded a profitable yield for many years.

Central West's Leader

The largest initial producer in the Central West fields was drilled in July, 1891, by the Ohio Oil Co., its No. 1 Hugh McMurray, which was on an 80-acre lease in the SW Section 11, Allen Township, Hancock County, Ohio, 8 miles south of North Baltimore and 1½ miles west of Van Buren. The well found pay sand at 1,200 feet and at first was a big gasser with the tools stuck in the hole. When they were loosened the tools were blown into the air. It took four hours to shut in the well and when it began to produce oil it started at 4,250 bbls. an hour and averaged 4,000 bbls. an hour for the first four hours. It was reported at the time as a 42,000-bbl. well.

Another notable well in the same field was that of T. E. and J. N. Kirkbride on the Benjamin Jones farm, in Madison Township, Sandusky County, Ohio, 4 miles west and 1 mile south of Gibsonburg, which had a flush production of 20,000 bbls. and averaged 7,000 bbls. a day for 30 days.

Wood County, Ohio, supplied many big wells. The largest were Sam E. Neice's No. 1 Ducat, in Henry Township, which started at 10,000 bbls. and Smith & Zeigler's No. 1 Dustman, Henry Township, also a 10,000-bbl. initial producer.

West Virginia's Best Well

West Virginia's largest well was the property of the South Penn Oil Co., No. 1 Copley heirs farm, on Sand Fork, Courthouse district, Lewis County, 10 miles southwest of the town of Weston. It was a wildcat test and opened the Sand Fork Pool, which broke the crude market.

On September 23, 1900, the well was drilled into the Gordon sand, found at a depth of 2,530 feet. It began showing oil in the top of the sand and work was shut down pending the erection of tankage. The well drilled itself in and for several days the oil flowed into Sand Fork Creek, across which a dam was constructed. The nearest pipe line was 32 miles away and the company, under the management of the late Glen T. Braden, began erecting tanks. Seventy-five 250-bbl. tanks were provided, the work of installing them being carried on night and day, while at the same time, under the direction of the late H. L. Scrafford, the Eureka Pipe Line Co. laid a line to the well in record-breaking time. While no accurate gauge was taken on this well, it was conservatively estimated at 5,000 bbls. and perhaps did 10,000 bbls. at its best.

West Kentucky's Shallow Wells

The largest initial producer in the Western Kentucky Field is a matter of debate. Many operators give the distinction to the Illinois Oil Co.'s No. 1 Harrison Shannon, Rockfield district, Warren County. On October 19, 1921, at a depth of 485 feet, the top of the sand was struck and the well made 2,500 bbls. the first day. On November 7 it was flowing 700 bbls. a day. After 30 days the tools were removed from the hole and the well pumped 500 bbls. It made 60,000 bbls. up to January 2, 1922.

O. J. Daugherty's No. 1 General Seibert, in the Davenport Pool, started at 200 bbls. an hour and flowed 10,000 bbls. in all. This was a Mississippi lime well.

The best well in the sand below the shale was Butler Brothers and others' No. 1 Phillips, in the Moulder Pool, eastern Warren County. It was completed in the spring of 1919, estimated at 3,000 bbls. The Seaboard Oil Co.'s No. 23 Angie McReynolds, in Allen County, started at 1,550 bbls. in September, 1919, and in five weeks was still making 500 bbls. a day.

Cannon Used in North Louisiana Well

The most important well in the entire history of the North Louisiana territory was completed on May 12, 1911, about six years after the discovery of oil in the northern part of this State. The well, No. 7 Harrell, was brought in by the Producers Oil Co. and later became the property of the Texas Co. The well was located 1,534 feet north and 1,121 feet east of the SW cor. Section 4-21-16, Caddo Parish.

There was no one present except the crew when the well came in while bailing at 2,394 feet. It caught fire, probably through the first gas flow coming in contact with fire in the forge. The flames defied all efforts to extinguish them, including the use of steam from a battery of 40 or 50 boilers. A cannon was brought from Houston, Tex., and an effort made to shoot off the gate-valve in the belief that the firefighters would have a better chance for success if the flow was perpendicular. Eventually a tunnel was started 500 yards from the well and under cover of this the casings were perforated with a tubular drill through which a combination of asbestos, mud and water was pumped until the fire was conquered.

The derrick was rebuilt and the well completed with a production at the time estimated at 47,000 bbls. That this was conservative is evidenced by the fact that one hour's flow was gauged at the rate of 40,000 bbls. a day and while this was being taken a great quantity was escaping and failing to register.

Homer's Prize Producer

The biggest well in the Homer Field, of northern Louisiana, was one that had been abandoned as a failure. The Standard Oil Co. of Louisiana's No. 2 Guy Oakes, NW SW Section 29-21-7, Claiborne Parish, was started May 17, 1919, and abandoned at 1,598 feet as a dry hole. Later the Standard returned to its supposed failure, which had not been plugged, and drilled it deeper, finding the big pay at 2,069 feet, August 8, 1919. This well gauged at the rate of 32,000 bbls. a day for short periods. When it was provided with pipe line outlet the well made 20,000 bbls. a day of 37 gravity oil.

Deepening Yielded Smackover Surprise

Credit for the original Smackover, Arkansas, discovery is held by the V. K. F. Oil Co., which completed No. 1 Richardson, SE NE Section 29-15-15, early in August, 1922, at a depth of 2,066 feet with 300 bbls. of production.

The tremendous production of this area was not fully demonstrated until March 23, 1923, when the Burton trustees completed No. 1 Hughes in the C Section 28-15-16, Ouachita County. The well was looked upon as a gasser, having tested 15,000,000 feet of gas on January 24, 1923, and was held awaiting orders for some time until it was decided to deepen, as a result of which it was completed at 2,008 feet in 63 feet of broken sand with an initial production estimated at 40,000 bbls. The oil was of 23.8 gravity with a temperature of 74 degrees.

The star producer of the Norphlet area in Union County, Arkansas, was No. 1 Murphy, completed on June 21, 1923, by Broderick & Calvert at 2,028 feet. The well had an initial production estimated at 15,000 bbls. of 22 gravity oil.

Largest Well in Wyoming

The largest oil well ever found in Wyoming was the Wyoming Associated Oil Co.'s No. 20-A, in the Salt Creek Field about 50 miles from Casper. This well was drilled into the second Wall Creek sand in September, 1918, and started off at an estimated production of 15,000 bbls. daily at 2,250 feet. The well was still making 4,450 bbls. daily after five years of production. The Wyoming Associated Oil Co. was one of the old Reed companies, which were merged to form the Midwest Refining Co., and later became part of the Standard Oil Co. (Indiana).

Other wells in the Rocky Mountain region made more oil at the start than No. 20-A, but this well is still regarded as the greatest oil producer of that region. The big shale well of the Mammoth Oil Co. on Teapot was estimated at 28,000 bbls., when it was flowing in the summer of 1922, but this well a year later was producing less than 50 bbls. daily. It was only 1,250 feet deep.

The Hobbs Pool in New Mexico, distinguished as having been a subject of special study and experiment by petroleum engineers, produced its biggest well in 1930. On October 12, that year, an open-flow test of the Continental Oil Co.'s No. 3-A State, in the NW NE SW Section 29-18-38, showed that well making 25,531 bbls. of oil daily. All wells in the field are put under strict proration after their potential production is ascertained.

The largest well Montana has ever had drilled inside its borders is that of the Frantz Corp. in the Cat Creek Field, NW cor. NE NE Section 14-15-29, and known in the field as No. 8 Frantz.

This well in June, 1922, found the top of the second Kootenai sand at 1,310 feet and stopped drilling in the sand at 1,325 feet, making 15 feet of sand as far as drilled. The hole was flowing as the tools came out and the well made 5,000 bbls. daily for several days through an open hole and large lead lines, then the lack of storage for the oil compelled the operators to shut in the well. It averaged about 3,000 bbls. daily for a year.

America's Greatest Producer

America's greatest producing well was the internationally famous No. 1 Lakeview, in the Maricopa Field, San Joaquin Valley, California, which blew in out of control March 15, 1910, flowing an estimated 70,000 bbls. of oil daily. It flowed wild at the rate of 50,000 bbls. a day for four months, and it produced 9,000,000 bbls. of crude. The No. 1 Lakeview was started as a wildcat by the Lakeview Oil Co., a small concern, but a crooked hole in which the tools were stuck discouraged the operators and they disposed of the property with the one drilling well to the Union Oil Co., which spent eight months and much money in straightening the hole. Pipe was set at 2,200 feet and drilling continued. It was not long afterward that the well came in. It did not stop flowing until September 11, 1911, 18 months after it started producing. An army of men was kept busy for a long time in constructing earthen storage, strengthened with sand bags, for this champion of all American wells, and when they were finished there was room enough for 10,000,000 bbls. of oil, and this one well provided nine-tenths of that quantity.

In the Long Beach Field of California the biggest well was the Petroleum Midway Oil Co.'s No. 1 Ryder, which blew in wild, flowing 19,000 bbls. daily, February 20, 1926.

The Union Oil Co.'s No. 18 Bell was the biggest well drilled in the Santa Fe Springs Field. It blew in wild, flowing 20,000 bbls. daily in June, 1923, but it wrecked the hole and was abandoned.

One of California's biggest wells, the Superior Oil Co.'s No. 7 Huffman, was completed March 17, 1934, in the Kettleman North Dome Field. The No. 7 Huffman, largest well in the pool, was finished under control, doing 20,963 bbls. of oil daily, accompanied by 24,000,000 feet of gas.

Big Wells in Mexico

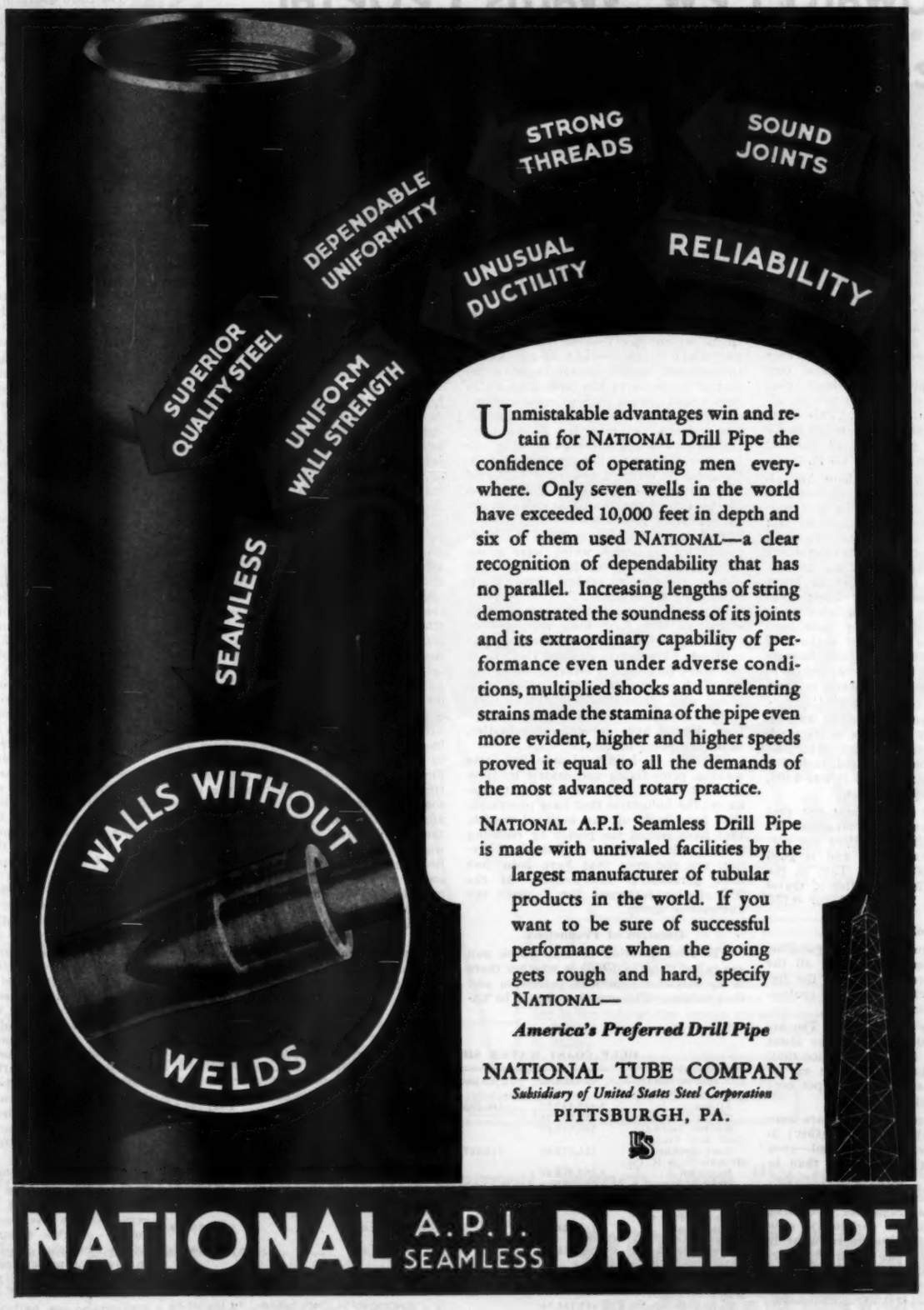
The Mexican fields supplied remarkable producing wells. The two most famous in its history in point of production were the Mexican Eagle Oil Co.'s No. 4 Potrero del Llano, and the Huasteca Petroleum Co.'s No. 7 Juan Casiano, both drilled in near the close of 1910, giving tremendous impetus to the Mexican oil industry. The Huasteca Petroleum Co.'s gusher came in on September 11, 1910, at a depth of 2,112 feet. It started at 50,000 bbls. This well was pinched down to 22,000 bbls. a day and produced that quantity until November 7, 1919, producing in all about 75,000,000 bbls. of oil. It was the only well in the Juan Casiano Valley of importance.

Forty-five miles southwest of Juan Casiano in the Potrero de Llano district the Mexican Petroleum Co. on December 26, 1910, opened up a production at 1,912 feet that caused one of the greatest battles against the elements ever staged in the history of oil. Lightning struck the well and caused a most spectacular fire. There was an acre of flame to fight, but while this was being done the well kept steadily producing at the rate of 25,000 bbls. a day. The fire was conquered and the well continued to produce for nearly eight years, until it had yielded 115,000,000 bbls. of crude.

Another great Mexican well was the Huasteca Petroleum Co.'s No. 4 Cerro Azul, which came in February 10, 1916, and up to the middle of 1923 had produced 65,000,000 bbls. of crude.

QUERY LEGISLATORS ON GAS TAX

Candidates for the Wisconsin Legislature will not have a chance to evade the gasoline tax reduction issue this year. The Wisconsin Petroleum Association is sending out questionnaires to each candidate nominated at the primary election September 18, asking his position on this and other matters vital to the industry, according to Roy L. Brecke, secretary of the association.



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J. Howard Pew Warns Federal Regulation Would Be Destructive

J. HOWARD PEW
President, Sun Oil Co.*

Petroleum is essentially a low-price industry; its materials, equipment and products are all extremely bulky in relation to value. It is one of the group of automotive industries—automobiles, rubber, accessories, motor fuel and lubricants—all bulky and of low cost. All have been developed on the basis of keen competition, huge production and constantly lower prices. Nowhere does American industry appear to greater advantage than in this group. This country has 60 per cent of the world's motor vehicles, and last year built 72 per cent of all that were built in the world.

Throughout this group there has always been keen, unrelenting competition. New discoveries, new methods, new markets, new processes have come so fast that it has been impossible to keep track of them. They introduced revolutionary methods of quantity production and always passed on the benefits in lower prices to their consumers. Their wage policies have been generous, labor troubles almost unknown. They have been justly regarded as the chief authors of prosperity during the first three decades of the century and have been looked to for leadership on the road back to prosperity.

The service of any industry to its public is measured by the price of its products. In 1914 the average wholesale value of all cars manufactured, including trucks, was $1,239; in 1933 it was $497, a reduction of 63.9 per cent.

In 1914 a tire for a light car cost from $20 to $22 and was guaranteed for 3,500 to 4,000 miles. In 1934 the corresponding tire cost $5.30 and is good for 20,000 to 25,000 miles. That is, the motorist paid $1 for 200 miles of travel on a tire; today he pays $1 for 3,750 miles.

Cost of Gasoline

In 1920 the average cost of gasoline, ex-tax, in 50 cities representing all the states, was 29.7 cents; in 1933 the figure for the same cities was 12.66 cents—a drop of 59.23 per cent.

But this is only a beginning. The average car's life 20 years ago was about 4.25 years; today it is about twice that. And despite its longer life, the car of today covers probably about 50 per cent greater annual mileage.

Twenty years ago almost all cars were open and unavailable in bad weather; in 1933, 98.6 per cent were closed—even more necessary in bad weather than in good.

From all the foregoing statements it appears that the average cost of owning and operating a motor car today, mile for mile, is about one-fourth of what it was 20 years ago. Yet despite this reduction it is calculated that 20 per cent of the national income represents the cost of operating our 24,000,000 automobiles. If costs in 1934 were as high as in 1914, the national automobile expenditure would be 80 per cent of the natiopal income—a manifest absurdity. These industries, as they are today, could never have existed but for the constant improvement and cheapening of their products.

Federal Control Would Raise Costs

Any governmental policy which results in increasing the cost of petroleum products will be destructive of the industry. Government regulation and control would in effect make the industry a huge monopoly and destroy the competitive spirit which has created the industry and made it the greatest in the world. Government control would increase the cost of products to the public, which in turn would compel reduced consumption; still further increase of costs would follow and the inexorable law of diminishing returns would drive us to ruin. So I make the plea that your report to Congress be directed toward a policy of insuring to the public—the consumer—in the future the lowest possible prices on petroleum products.

The results I have outlined were obtained by industries which were growing rapidly, but which fortunately were almost completely exempt from interference by Government.

Compare this automotive group with industries that have been regulated or interfered with by Government. The railroads have nearly doubled their rates and many of them are either in or on the verge of receivership. The public utilities, with rates and conditions controlled, are in the doldrums. Ocean shipping, despite huge government subsidies, is on the point of ruin.

The fact is, industrial subsidies, rate making, price fixing and control by Government have inevitably brought disaster; the industries that have prospered, that have built up the national wealth, that have served the people by reducing prices and raising the standard of living, are the ones that have been free from government interference. At the top of this fortunate list I place the automotive group.

Question of Production

The first question of fact which you are called upon to decide is whether there is an excessive supply of petroleum and its products. The question should be answered, it seems to me, from the point of view of public interest. The consuming public is primarily interested in excellence of product and cheapness of price. From the public point of view there is no such thing as excessive production. The greater the output and the freer the competition in marketing it, the lower the price to the consumer. I have already shown that the consuming public has in fact enjoyed abundance of supply and cheapness of price as the direct result of wholesome competition. What is good for the consumer is good for the carrier. The more petroleum produced and sent to market the greater the volume of the carrier's business. It follows that production in this industry cannot be excessive except from the point of view of a producer anxious to limit supply and keep up prices. My company has no such desire.

The second question before you can be broken down into two: First, whether excessive supply, if it exists, injuriously affects commerce and, second, whether it renders unprofitable the operation of small wells. I have shown, I think, that commerce in general is not injuriously affected by unlimited supply. As to the small well, it must be borne in mind that most small wells were at one time large wells and that their investment has long since been paid back by their production. The only charge against the operation of these small wells is that of lifting the oil from the hole. On this basis the small well always has been able to operate and there is no reason to believe that they will not be able to continue to so operate. But in the event some of these small wells cannot be operated on this basis, your policy regarding them will have to be determined on whether your primary concern is the public interest or a special interest of the owner of the small well. If your first care is for the consumer, you will do nothing for the small producer which would result in artificially raising the price which the ultimate consumer has to pay. On the other hand, if you want to guarantee profitable operation to the small producer, you will have to limit supply, control distribution, and fix prices to the public at a figure high enough to insure his survival. My assumption is that you are working in the public interest and that no system of regulation is sound which sacrifices public good to private gain.

Must Police Production

The third question relates to maximum yield. It appears to be based on the assumption that the placing of restrictions upon the quantity of petroleum which may be moved in commerce will somehow insure recovery of a maximum percentage of the country's oil. This is a false assumption. The way to insure maximum recovery and prevent waste is not to interfere with the operation of commercial law but to police the production of oil at its source and make sure that the owner of a well is not driven to wasteful production in order to protect himself against the neighbor who seeks to get more than his equitable share of oil in place. This is the function of the state where the land lies; or (where the interests of more states than one are involved) of the interested group of states working together under such a compact as I shall speak of presently.

Now, a word as to the two major concerns of the petroleum industry.

First, the tax-burden. Last year the industry's taxes were roundly $1,000,000,000, of which special gasoline and lubricant levies were about $750,000,000—Federal, state and local. The average gasoline tax was 5.21 cents a gallon; yet it has been authoritatively calculated that a 2-cent tax would efficiently maintain the highways and provide necessary extensions.

For Interstate Pact

The other great problem confronting the industry concerns the lack of police protection for property rights in oil under ground which is presumably owned by the owners or leaseholders of the land, but which under present law can be stolen. As the country's greatest taxpayer, the petroleum industry is surely entitled to police protection for its properties, and its stores of supplies. The oil stored underground constitutes the "warehouse stores" of the oil industry. Through advances made in geological research it is now possible for a producing company, or the owner of a well, to estimate within a very small percentage, the exact amount of oil they have underneath their property, and there should be a law to prevent the theft of this oil by one owner or leaseholder from the property of another. It is my opinion that this can only be worked out through proper state laws. I am very hopeful that the states will develop a plan for the production of petroleum in such a manner as will insure the maximum yield, by practical means, from each oil field so that this oil may be used at such time or times, and at such place or places, as it may be needed. In order that each oil-producing state should get its fair share in total production, these states should form an interstate pact, which can be done with the sanction of the Federal Government. I recommend, therefore, that the Federal Government by law set up a commission with authority to formulate a plan and assist the states in perfecting such an agreement among themselves as will properly police and protect property rights in oil under ground. Interstate pacts of this kind are contemplated in the Constitution, and in several instances have been entered into.

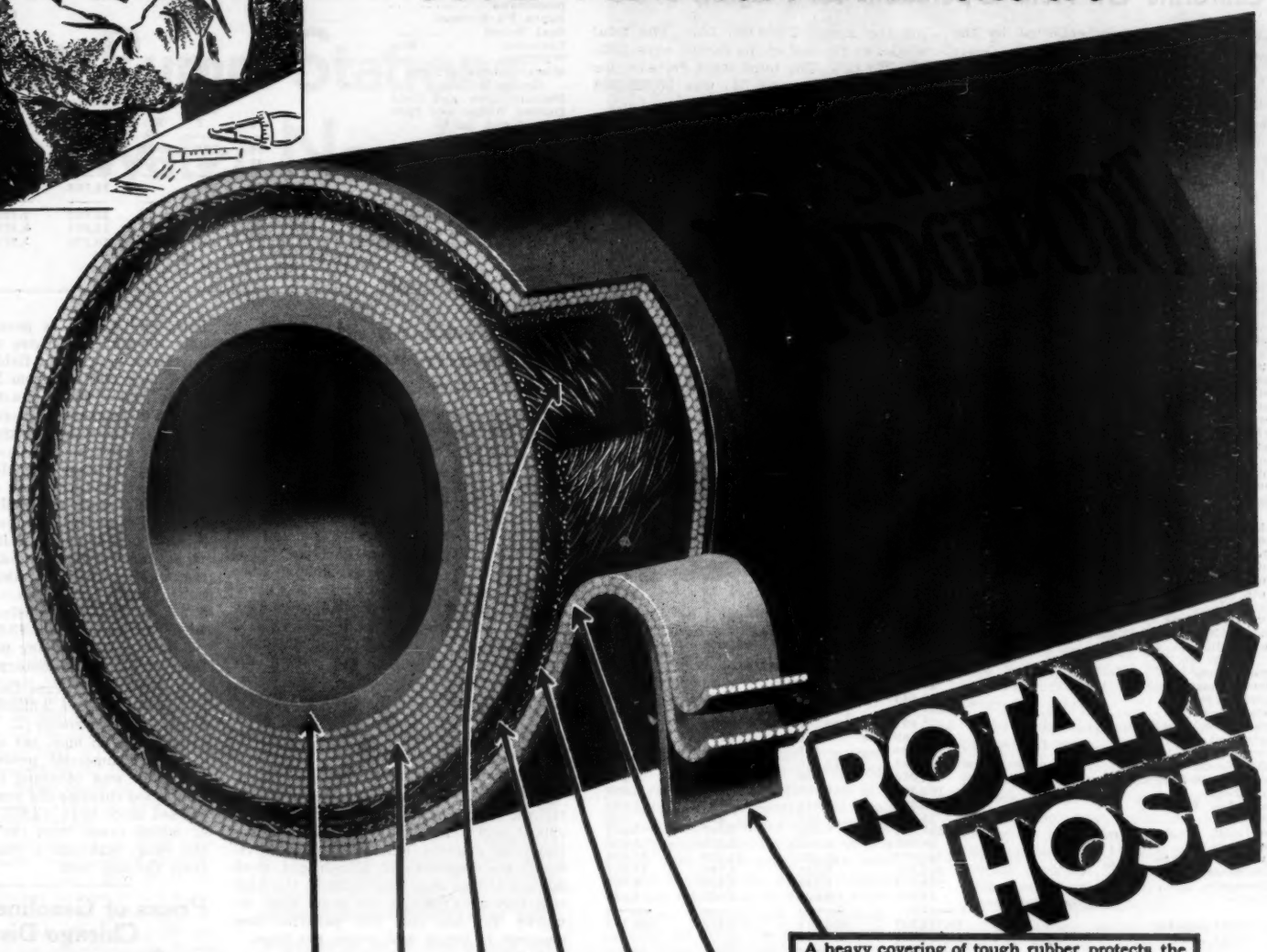
Regarding future supplies of oil, frankly I may say I feel but small concern. Nature has been bountiful in the supply of this resource, and we have hardly scratched the surface. I am not in favor of preserving supplies of petroleum for the use of generations yet unborn. I predict that within my lifetime, and yours, we will see our present dependence on the motor power derived from petroleum and its products outmoded, or at least obsolescent. In Germany and in England today large and increasing quantities of motor fuel are being produced from coal. I am not one of those who fear a motor fuel famine. But I do feel a very real concern in the

*Before House Subcommittee at Washington, D. C.

GULF COAST WATER SHIPMENTS DURING AUGUST

Company and terminal—	Crude—Coastwise	Crude—Export	Refined—Coastwise	Refined—Export	Total
Atlantic P. L. Co.:					
Atreco	1,442,882.77	100,903.23	8,409.14	.....	1,552,195.14
Texas City	188,911.78	.....	2,670.90	.....	191,582.68
Harbor Island	316,760.59	.....	.....	.....	316,760.59
Gulf Ref. Co.:					
Port Arthur	451,272.95	112,457.11	1,746,468.04	16,780.18	2,327,178.28
Humble O. & R. Co.:					
Baytown	1,251,058.00	.....	1,484,435.44	461,498.23	3,197,041.67
Harbor Island	1,754,988.00	.....	.....	.....	1,754,988.00
Ingleside	67,973.00	.....	.....	.....	67,973.00
Texas City	368,493.00	.....	.....	.....	368,493.00
Magnolia Pet. Co.:					
Beaumont	711,668.98	.....	1,860,062.00	.....	2,571,730.98
Pure Oil Co.:					
Smith Bluff	484,458.00	.....	435,248.64	.....	919,706.64
Shell Pet. Corp.:					
Houston	247,174.93	250,397.14	994,186.48	186,217.05	1,707,875.60
Norco	.....	.....	122,032.45	115,116.74	238,149.19
Standard (La.):					
Baton Rouge	361,188.00	.....	598,392.00	477,347.00	1,436,927.00
Sun P. L. Co.:					
Sabine Pass & Sun	1,891,168.75	.....	.....	.....	1,981,168.75
Texas Co.:					
Port Arthur	1,823,487.00	605,095.00	2,117,456.00	681,551.00	5,231,589.00
Miscellaneous:					
Houston	1,178,105.07	256,615.86	1,244,977.08	323,274.72	3,002,971.73
Total August	12,539,590.82	1,359,368.34	10,615,588.17	2,361,784.92	26,776,331.25
Total July	11,976,767.23	1,610,141.74	12,488,297.19	1,563,856.04	25,479,062.19
Difference	562,823.59	250,772.40	1,872,709.02	697,928.88	1,297,269.06

IT SATISFIES THE TECHNICAL MAN . . .


ROTARY HOSE
A heavy covering of tough rubber protects the fabric and wire from abrasion and the rough usage to which a hose must necessarily be subjected on the derrick floor.
Two more plies of heavy woven duck (10 plies in all) protect the wire and add strength to the hose structure.
A second reinforcement of woven wire imbedded in the rubber, the weave running opposite to that of the first, giving added strength and flexibility.
A heavy ribbon of rubber in which the wire reinforcement is imbedded, permitting greater flexibility and eliminating wire friction.
Heavy tube made of tough, high-grade oil resisting rubber of seamless construction, offering the maximum resistance to the abrasive action of slush and fluid.
Eight plies of extra heavy, balanced woven duck, vulcanized so securely together as to form a homogeneous structure of unusual compactness.
Woven wire reinforcement, made especially for this hose, of the finest steel wire obtainable, is imbedded in the hose structure to supply the super-strength and correct elasticity for which the hose is famous.

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efficient and economic production of a motor fuel that will supply our present generation with its current needs, at the lowest possible cost to them. The public is entitled to the widest possible benefits from the use of petroleum and its products, at a reasonable cost. If the Government will afford us adequate police protection for our production, and help to lengthen the burden of excessive taxation, it will have solved the problems which constitute the only real sources of concern to those who have the welfare of the petroleum industry at heart. And in doing this, it will be serving the great public interest.

California Oil Field Operations for August, 1934

According to figures collected by the American Petroleum Institute, the total production of crude oil in California for August amounted to 15,291,637 bbls., an average of 493,279 bbls. per day. This is a decrease of 24,599 bbls. per day under July production.

Total stocks of crude and all products in Pacific Coast teritory decreased during the month 2,284,087 bbls. The total stocks at the end of the month were 136,130,333 bbls. The total stock decrease for 1934, up to August 31, was 15,628,934 bbls.

Thirty-three wells were completed during the month with an initial daily production of 64,599 bbls., compared with 25 wells completed during July with an initial production of 35,896 bbls.

CRUDE PETROLEUM PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

	Total production	Daily average		
Group No. 1—	August	Aug., 1934	July, 1934	Aug., 1933
Belridge-North	175,195	5,651	5,726	(*)
Belridge-South	62,050	2,002	2,201	(*)
Coalinga	597,852	19,286	21,313	10,474
Edison	2,185	71	238	.....
Elk Hills	243,749	7,863	8,753	12,881
Fruitvale	100,975	3,257	3,952	4,354
Kern River	336,351	10,850	10,630	9,081
Kettleman Middle Dome	5,221	168	168	669
Kettleman North Dome	1,981,680	63,925	67,001	61,800
Lost Hills	138,481	4,467	4,710	*7,592
McKittrick	90,006	2,903	3,145	1,722
Midway-Sunset	1,655,580	53,503	56,998	47,452
Mountain View	235,332	7,269	6,400	427
Mount Poso	306,738	9,895	10,827	9,167
Round Mountain	135,408	4,465	5,083	2,948
Wheeler Ridge	15,377	433	428	463
Group No. 2—				
Capitan	18,894	610	650	18
Elwood	387,366	12,496	11,660	13,082
Rincon	44,403	1,432	1,537	1,971
San Miguelito	22,898	739	922	1,194
Santa Barbara	49,810	1,607	647	775
Santa Maria	165,393	5,335	5,379	3,303
Summerland	1,925	59	52	95
Ventura Avenue	847,314	27,330	28,721	35,657
Ventura-Newhall	136,979	4,419	4,261	3,157
Watsonville	1,860	60	60	60
Group No. 3—				
Brea-Olinda	348,052	11,227	11,979	7,620
Coyote-East	85,134	2,746	2,995 }	
Coyote-West	293,640	9,472	9,810 }	†10,021
Dominguez	608,371	19,625	19,931	20,444
Huntington Beach	1,372,692	44,280	46,945	48,560
Inglewood	293,061	9,454	9,979	11,501
Lawndale	4,739	153	138	220
Long Beach	1,948,362	62,850	67,625	73,836
Los Angeles-Salt Lake	24,060	776	801	876
Montebello	169,150	5,456	5,522	5,896
Playa Del Rey	358,637	8,345	8,714	11,052
Potrero	11,998	387	417	327
Richfield	266,584	8,599	8,587	7,489
Rosecrans	92,278	2,980	3,209	3,076
Santa Fe Springs	1,240,623	40,020	41,490	53,498
Seal Beach	264,846	8,543	9,799	11,511
Torrance	224,713	7,249	7,342	6,727
Whittier	31,735	1,024	1,093	1,189
Total August	15,291,637	493,279	517,878	501,188
Total July	16,054,232	517,878		
Decrease	762,595	24,599		

*Lost Hills figure includes North and South Belridge. †East and West Coyote were previously combined as Coyote.

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	Aug. 31, 1934	July 31, 1934	Aug. stock changes	Dec. 31, 1933
1. Non-gasoline-bearing crude, residuum, gas and Diesel oils	76,348,570	78,448,445	—2,099,875	92,664,274
2. Gasoline-bearing crude	36,281,340	35,851,686	+429,654	35,879,163
3. Unblended natural gasoline	2,701,146	2,512,023	+189,123	2,304,194
4. Gasoline (not including distributing and service stations)	12,317,462	13,068,436	—750,974	12,687,385
5. Naphtha distillates	*1,124,460	*1,215,191	—196,731	*1,347,891
6. All other stocks	†7,357,355	†7,218,039	+188,716	†6,876,360
Total	136,130,333	138,414,420	—2,284,087	151,759,267
* Estimated amount of unfinished gasoline contained in item No. 5	882,901	1,027,330	.....	1,024,397
† Coke included in item No. 6	602,423	607,124	.....	620,313

OIL FIELD DEVELOPMENT

	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abd. wells Drlrs.	Abd. wells Prodrs.
Group No. 1—							
Belridge-North	1	5	1	3,431	31	1	...
Belridge-South	...	...	...	.....	135	...	...
Coalinga	...	...	1	55	963	...	...
Edison	2	10	1	50	4	...	...
Elk Hills	...	...	...	.....	178	...	...
Fruitvale	1	2	1	180	62	1	...
Kern River	1	...	...	.....	1,351	...	...
Kettleman Middle Dome	...	1	...	.....	1	...	...
Kettleman North Dome	4	24	8	44,945	71	...	...
Lost Hills	...	...	...	.....	327	...	...
McKittrick	...	2	...	.....	185	...	...
Midway-Sunset	1	8	...	.....	2,430	...	...
Mountain View	2	14	3	2,440	27	...	...
Mount Poso	5	5	4	2,594	137	2	...
Round Mountain	1	...	...	.....	46	1	...
Wheeler Ridge	...	...	...	.....	34	...	...
Group No. 2—							
Capitan	1	2	...	.....	9	...	...
Elwood	...	5	1	1,000	55	...	...
Rincon	...	...	...	.....	39	1	...
San Miguelito	...	1	...	.....	2	...	...
Santa Barbara	3	3	4	3,936	20	...	...
Santa Maria	2	2	1	140	121	2	2
Summerland	...	...	...	.....	33	...	...
Ventura Avenue	1	13	1	1,636	161	...	...
Ventura-Newhall	3	15	...	.....	459	2	1
Watsonville	...	...	...	.....	7	...	...
Group No. 3—							
Brea Olinda	...	1	...	.....	350	1	...
Coyote-East	1	...	...	.....	74	1	...
Coyote-West	...	3	2	430	36	...	...
Dominguez	2	6	1	1,463	65	1	...
Huntington Beach	2	4	1	101	469	...	1
Inglewood	...	5	1	1,895	304	...	...
Lawndale	...	...	...	.....	7	...	...
Long Beach	8	17	3	343	1,078	...	...
Los Angeles-Salt Lake	...	...	...	.....	149	...	...
Montebello	...	9	...	.....	162	...	...
Playa Del Rey	1	2	...	.....	164	...	...
Potrero	...	...	...	.....	11	...	...
Richfield	...	...	...	.....	244	2	...
Rosecrans	...	1	...	.....	71	...	...
Santa Fe Springs	1	9	...	.....	534	1	...
Seal Beach	...	...	...	.....	115	...	1
Torrance	...	...	...	.....	471	...	...
Whittier	...	...	...	.....	158	...	...
Miscellaneous drilling	3	33	...	.....	.....	11	...
Group No. 4—							
Buttonwillow gas field	...	1	...	.....	.....	...	...
Dudley Ridge gas field	...	...	...	.....	.....	...	...
Goleta gas field	1	2	...	.....	.....	...	...
Total August	56	206	33	64,599	11,261	26	4
Total July	46	211	25	35,896	11,345	17	9
Increase	10	*5	8	28,703	16	9	...
Average for year 1933	30	124	21	22,843	9,199	14	18
Average for year 1932	18	108	15	13,069	8,928	16	14
Average for year 1931	22	207	21	30,370	8,911	20	15

*Decrease.

Price Declines Mark Week in Eastern Refinery Trade

(Continued from Page 23)

prices are 5¾ cents for the local octane U. S. Motor, 6 cents for the middle octane, 6¼ cents for the 65 octane and above, and 6½ cents for the branded ethylized grades.

Some cargo business has been placed at the Gulf by sellers in this country. The reported prices are around 4½ cents for the 64-66 375 endpoint gasoline. This price is below the reported asking price of a majority of the sellers in this country and European points. The Rumanian refiners continue to quote around 5¼ cents for the 375 endpoint material basis the Gulf and in effect are out of the spot European market.

Kerosene prices are being maintained at 5 cents in the New York Harbor market. There has been a seasonal increase in demand.

Lubricating Oils

The demand for some grades of steam refined stocks has been slow in both the export and domestic markets and a majority of refiners and brokers have reduced their quotations. The bright stock market also is slow especially in the high cold test material. At the same time the market for low cold test paraffin base neutrals is active and prices are firm.

Activity in wax continues to be centered in the crude scale material with sales of the 124-126 grade reported as high as 3¼ cents. The refined grades are slow.

Deeper Drilling in the West Columbia Area

(Continued from Page 11)

have had initial productions between 5,000 and 10,000 bbls. daily and there have been quite a few wells rated better than 20,000 bbls. daily. Several other coastal fields have had wells with larger initial productions but of note at West Columbia is the fact that the wells generally have had longer flowing lives. This is indicated in that the total production has been from fewer than 350 wells. At present there are only 35 wells in the field.

A half dozen wells in the field have produced more than 1,000,000 bbls. each from small acreage. Most famous of these wells have been Texas Co.'s No. 58 Hogg and No. 1 Abrams. The former, completed May 26, 1921, with an initial production of 5,500 bbls., has yielded to date more than 5,188,000 bbls. and still is making around 780 bbls. daily. The Abrams well, while it has not produced as much oil altogether as No. 58 Hogg, had a much larger initial production, and yielded a large part of its oil during a period of high crude prices when the market was around $3.50. Its total production has been more than 3,059,000 bbls., and now it is pumping around 25 bbls. net oil. Both these wells are on the northwest side of the field, the Hogg well being only 600 feet from No. 1 Abrams.

The latter well attracted considerable attention at the time it came in July 20, 1920. Blowing in unexpectedly from a depth of 2,992 feet with open hole it ran wild for 40 days. Finally after it had sanded up, killing itself, casing was run in the hole and the well was completed in natural order. Then on actual gauge it flowed 26,500 bbls. daily for five days. It produced a long period without showing water, which is something unusual under such conditions. As a total of 1,000,000 bbls. was produced by this well when oil was worth $3.50, to this well goes the credit of being perhaps the most profitable well in history.

Another well, Texas Co.'s No. 80 Hogg, has produced over 3,623,000 bbls. It was completed September 2, 1924, and now is pumping 25 bbls. net oil.

First commercial production at West Columbia was obtained in 1918, and in the period through the year 1922 the field yielded more than 42,897,000 bbls., most of which came from the sands flanking the dome, although a small amount was from the cap rock.

Prices of Gasoline in Chicago District Upset

(Continued from Page 32)

bit soft. The increasing competition from coal is bringing about a rather difficult situation for these materials. Gas oils are soft and freely offered, especially from East Texas.

Lubricants

Lubricants are marking time, without revealing anything in a fundamental market nature. Jobbers and compounders alike show little interest in anything but the most sparing type of purchases. Prices have shown no general or important change. Autumn motor oil sales are reported running at fair levels.

Solvents, Naphthas

Solvents and naphthas are in fair call, with nothing sensational noted. Settlement of the Chicago cleaning establishments' lockout and strike prevented much trouble in cleaners' naphtha.

Waxes

Waxes are a bit slow, but seem firm. prices showing no change.

Coke

Petroleum coke business is running along a little more actively in line with the season. Prices are steady.

NEW BRUNSWICK PRODUCTION

FREDERICTON, New Brunswick, Oct. 1.—Official figures place the value of the natural gas production of New Brunswick in the first six months of 1934 at $196,784.

Diesel Engine Exhaust Gas at Pump Stations Heats Water Needed

Two exhaust heaters outside of pump station on pipe line showing one type of this class heater

By L. G. E. BIGNELL
Petroleum Engineering Editor

Many pipe line pump stations are powered with Diesel internal combustion engines driving either centrifugal or reciprocation type pumps used in forcing the fluid along the line. The type of engine invented and developed by Dr. Rudolph Diesel of Germany requires two revolutions of the crankshaft to complete its cycle, and is known as a four-cycle engine. One revolution of the crankshaft forces the piston to compress the charge in the cylinder to about 500 pounds per square inch pressure and at this pressure the temperature within the cylinder is raised to nearly 1,000° F. Modern Diesel engine compression pressures range from 375 to 550 pounds per square inch thus heating the air to 900 or 1,100° F. and the temperature of the exhaust gases will vary from 500 to 750° F. A portion of this heat is absorbed in the cooling water in the cylinder jacket, part of it is converted into energy and the balance is carried off in the exhaust.

As this exhaust gas is of very high temperature there have been a number of uses devised to utilize a portion of the heat and one rather unique device is an exhaust water heater. Hot water may be used to heat engine cylinder oil to aid in cleaning it in the centrifugal machines, or to provide hot water to heat the engine room and building during the cold weather.

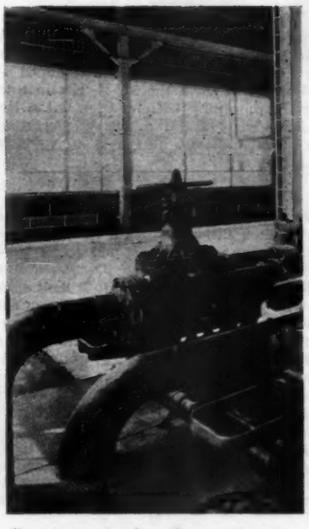
If exhaust gas is not utilized for some such purpose it is customary to discharge it into the atmosphere through mufflers. These mufflers are made according to many designs but the general principle is to increase the volume of the chamber through which the gas passes and in this way reduce velocity. This deadens the noise of the exhaust and to some extent lowers the temperature of the gas exhausted to the atmosphere.

One simple type of muffler is made with a pipe bored full of small holes enclosed in an iron shell and discharging the exhaust gas into the pipe from which it passes through the holes to the shell of the muffler and finally to open air.

The more efficient a muffler the greater the back pressure and loss of power; hence the use of a simple drum type is common practice and the quietness of engine operation is a secondary consideration.

But the wasting of the heat of exhaust is unnecessary and several types of water heaters have been designed. A type shown in the accompanying picture is a hollow shell but fitted with tight heads. The exhaust gas enters at the bottom of the upright shell and passes upward and out of the exhaust pipe at the top of the shell. Between the upper and lower heads two flat discs are placed within the shell and welded tight to it.

These inside heads are drilled with holes in a pattern that is the same for both the top and bottom disc and of sufficient diameter to receive a set of one-half inch diameter steel tubes. Like the flues in a boiler, these tubes are expanded tight in the upper and lower inside head and the exhaust gas must pass through the inside of the small tubes to move from the lower to the upper end of the upright exhaust heater.



Portion of pipe line pump station engine room showing steam radiators along wall heated by exhaust heaters

Hookup Between Engine and Heater

The exhaust from the several engines within the pump station leaves the building in separate exhaust pipes and these pipes discharge into a common header or manifold that is buried in the ground and sealed at each end. If it is desired to permit the gas to escape direct to the atmosphere from any one of these engine exhausts a two-way butterfly valve set in the upright exhaust pipe is opened and the gas passes to the muffler for the individual engine and then to the air.

If it is desired that any portion of this exhaust pass through the heater the butterfly valve is closed in the engine exhaust and this diverts the gas into the common manifold and from this manifold into the exhaust heater and through the small half-inch tubes.

The water to be heated surrounds these tubes and its fluid level is controlled by a Mercoid float set outside of the shell but so attached to it by inlet and discharge pipes that the upper predetermined level of the water in the shell of the heater is maintained.

Three petcocks in the shell of the heater permit the testing for water level. The heater is insulated and provided with a pop valve that will permit steam to escape to the atmosphere when the internal pressure gets too high.

The Mercoid float controls the electric current that furnishes power to the motor driving the centrifugal pump forcing the water into the heater. This water is taken from the common water supply for the station.

The exhaust gas raises the temperature of the water from about 80° F. to about 225° F., the temperature of steam at about 5 pounds gauge pressure. This steam passes into the engine room and through a set of radiators and is enough to maintain a temperature of about 50° F. within the ordinary engine house built of corrugated asbestos sheets over a steel frame with corrugated sheet roof and cement floor, if the outside temperature does not fall below 12 degrees above zero. If lower temperature is reached it is possible to start up an auxiliary steam boiler fired with coal or fuel oil.

Oil Heaters

The condensed steam from the radiators passes to a common sump and is returned to the water system of the station. But this use of the steam would only provide a means of utilizing the heat in the exhaust gases during that portion of the year when the outside temperature necessitated the heating of the pump and engine room.

It is necessary to clean the cylinder lubricating oil at all times of the year and it has been found that this can be done advantageously by heating the oil to about 180° F. before it is passed through a centrifugal separator.

To heat this oil one or more heat exchangers are used and the hot water from the exhaust heaters passes through the shell with the oil passing through the inside of the exchanger tubes. In this way the oil is heated to about 180° F. and then after it has passed through the centrifugal it is returned direct to the tank for lubricating oil for the particular engine from which the oil treated was secured. In this way the oil in each engine is kept separate from that of the other engines.

Jacket Type Heater

At some pump stations it is not necessary to provide steam or hot water for heating the building but it is always desirable to heat the lubricating oil before it goes to the centrifugal separator.

To secure hot water at one main line pump station powered with full Diesel engines the exhaust from the engine cylinders passes direct to a pipe with an outside diameter of approximately 8⅝ inches. This exhaust pipe passes through the wall of the building and into the usual type muffler and then to the atmosphere.

Over that portion of the 8-inch pipe within the building a joint of 12-inch pipe has been welded. This outside pipe is provided with a Smith Brothers "wrinkle" joint in the center to take care of expansion and contraction, but the 8-inch inside exhaust pipe is not provided with expansion joint.

The circulating water in the system is pumped from a central sump or "hot well" with sufficient pressure to permit it to be fed into the space between the 12-inch jacket pipe and the 8-inch exhaust pipe and retained there long enough to be heated to about 220° F. or the temperature of steam at about 3 pounds pressure. This heater is provided with a relief valve that pops off at about 3 pounds pressure.

This boiling water is used for heating oil that is circulated through heat exchangers and brings its temperature up to about 180° F. before it goes to the centrifugal. The cleaned oil is returned to the individual reservoir for the particular Diesel unit from which the dirty lubricating oil was taken.

In this system the water from the heat exchangers is returned to the circulating water system and pumped back to the Diesel water jackets by centrifugal pumps.

Japanese Endeavoring to Secure Supply of Oil

Reports from several countries indicate that the Japanese government is endeavoring to contract for large supplies of crude oil and fuel oil. The government is said to have under consideration the adoption of a policy which will compel all companies distributing in Japan to operate refineries in Japan and refine all the products used for domestic consumption. At present the bulk of the petroleum products are imported. In addition the government is interested in contracting for supplies for its navy and for storage purposes to be used in case of national emergency.

Among the oil-producing countries in which inquiries have been made are the United States, Rumania, Mexico, and U.S.S.R. In the United States the inquiry was for California fuel oil and also large supplies of crude oil from Texas.

Hidalgo County Assured Rapid Development; Already 24 Locations Have Been Made

SAN ANTONIO, Tex., Oct. 1.—Since the completion of Otto Woods' No. 1 John Lawrence wildcat in the southwestern part of Hidalgo County, which opend the first pool in the county last week, a total of 24 locations has been announced for the new field, assuring this new area one of the most rapid development programs that has ever taken place in the Southwest Texas district. Three tests are expected to be spudded by the middle of the week, and derricks are now under construction for three other tests. Machinery is being moved in for Alamo Drilling Co.'s No. 1 Ed Sullivan, north of the discovery well in Tract No. 284, Porcion No. 39. Heep Oil Corp.'s No. 1 Teresa V. De Flores is rigged up and ready to spud. Location is in Tract No. 284, Porcion No. 39. C. C. Bishop is ready to spud his No. 1 Francisco B. Guerra in Tract No. 254, Porcion No. 39. Derricks will be completed during the week for Otto Wood's No. 1 Francisco B. Guerra in Tract No. 254, Porcion No. 39, and Moncrief and Showers' No. 1 Francisco B. Guerra in the center of the northeast 10.77 acres of the southwest 40.77 acres of Tract No. 254, Porcion No. 39.

On a proration gauge made by the Railroad Commission the discovery well flowed at the rate of 45 bbls. per hour into a 1,000-bbl. storage tank through a one-half inch tubing choke with a working pressure of 750 pounds on the tubing. While production was shown to be 1,080 bbls. the Railroad Commission will require the well to be prorated to 150 bbls. per day immediately, to conform with a 150-bbl. per day allowable ruling which was set in Austin during the week by the Railroad Commission for all new fields.

Another wildcat location was made in the county by McCollum Exploration Co. It is to be drilled to 5,500 feet and is on the company's John C. Engelman lease in Lot 3, Block 70, Mestenac tract in the central part of the county. It is to be started by the first part of October. In the eastern part of the county, Union Sulphur Co.'s No. 2 American-Rio Grande Land & Irrigation Co. is drilling below 6,149 feet. This is the deepest drilling test in the valley. Location is in Block 86, in the north Capisallo district.

Webb County

In the Bruni townsite area of the West Cole Field, Webb County, American Liberty Oil Co.'s No. 3 Bruni was completed, making the fifth and one of the best producers completed in the pool. It was completed at a total depth of 3,425 feet for an initial production of 36 bbls. per hour on a five-sixteenths inch choke with tubing pressure 850 pounds and casing pressure 1,150 pounds. Location is Block 48, Survey 8, Adams Subdivision, in the Arispe Grant Survey. Of the six active tests in the district, two are expected to reach the pay horizon during the week. Cole Petroleum Co.'s No. 86 Benavides, just north of the townsite of Bruni, is drilling below 3,450 feet after testing a sand which showed salt water at 3,430 feet. O. W. Killam's No. 25 Bruni, southwest of Cole Petroleum Co.'s No. 85 Benavides producer north of Bruni, is drilling below 3,424 feet. Sun Oil Co. has entered into activities in the field and has made location for its No. 1 Bruni.

Bee County

Humble Oil & Refining Co. has made a location for an interesting wildcat in the southeastern part of Bee County. It is on the Daniel Fox land in the M. Fox Survey, 12 miles east of Beeville. Location is in the northwest corner of the survey, 3 miles south of an old test on the Quincy ranch, and one-half mile northwest of the company's Hurlbut test on the Chestnutt lease, abandoned some time ago. It is also 4 miles north of Humble's No. 1 Thompson, abandoned several months ago. Various oil and gas shows are reported to have been encountered in several of the abandoned tests, and the test is being drilled on the strength of these showings.

In the West Tuleta Field, Bee County, two producers were completed. Edwin M. Jones' No. 4 Robinson was completed for an initial production of 125 bbls. per day from a total depth of 3,930 feet. Location is in Section 5 in the Ragsley Subdivision, Uranga Grant Survey. Walton and Heard's No. 3 Rapp, in the same section, cemented 5½-inch casing at 3,982 feet and was completed for an initial production of 150 bbls. per day from a total depth of 3,905 feet. Dirks Brothers' No. 2 Skinner and Harris, south of discovery well, topped the sand at 3,930 feet and is cementing casing. Total depth is 3,957 feet.

Jim Wells County

Smith and Storey's No. 1 Martha E. Dilsworth in the northern part of Jim Wells County attracted some attention to that area during the week when it encountered a gas sand from 2,328-50 feet, estimated capable of making a few million feet of gas. This is the same sand found in Gulf Production Co.'s No. 5 Schaeffer, 1 mile west, completed for a large gas well at approximately the same depth. Location for a 6,000-foot wildcat test in the county has been announced by Richardson and Zich. It is to be drilled in the center of the west half of the north 80 acres of the NE of Section 12, S.A.&M.G. Survey, about 10 miles north of the town of Alice and 3 miles southwest of Alford. The drilling block consists of 2,000 acres contributed by Plymouth Oil Co. and the well is to be started by the first of November. Humble Oil & Refining Co., Shell Petroleum Corp., Magnolia Petroleum Co., Gulf Production Co., Houston Oil Co., United Gas Co. and Plymouth Oil Co. all own acreage in the area.

Fayette County

J. Elmer Thomas and Henshaw Brothers, Inc., have started operations on their No. 1 Gleckler, 3 miles southeast of La-Grange in Fayette County. Location is 330 feet southwest and 350 feet southeast from the north center of the 98.5-acre tract of the Anna Powell League. The test has been contracted to go to 3,500 feet and will test the Fayette, Yegua, Cook Mountain, Mount Selman and the Wilcox horizons. The latter two horizons are found productive in the Kitrell Field, Houston County, and the Clay Creek Field in Washington County.

Live Oak County

In Live Oak County, Marine Oil Co.'s No. 1 Ross Booth, a deep test east of the Lucas Field, has been abandoned at 5,505 feet. It is in the M. B. Kivlin Survey. In the McNeil Field, Lion Oil & Refining Co. is starting active operations for its second well, northeast of No. 1 in Block 9.

San Patricio County

Petrol Oil Corp.'s No. 1 Welder, in the Sinton Field, San Patricio County, has the appearance of making a well after plugging back from 6,000 feet and sidetracking at 5,400 feet. On a drill stem test at 5,427 feet it tested 1,700 pounds pressure and showed considerable gas with a reported showing of oil. It is a mile west of the discovery well and if completed for a producer it will be the first well for the field. The discovery well, drilled by the Plymouth Oil Co., was completed as a gasser. Northeast of Sinton, Heep Oil Co.'s No. 4 Welder is drilling below 6,121 feet after it had failed to develop production from sand at 5,482-90 feet.

Nueces County

In the Saxet Field, Nueces County, three completions were reported. Houston Oil Co.'s No. 3 W. W. Walton cemented 7-inch casing at 4,868 feet and was completed for a 200-bbl. well at a total depth of 4,872 feet. Southern Mineral Corp.'s No. 2 Ocher, in Survey No. 418, Section 8, encountered sand from 4,861-68 feet and set 7-inch casing at 4,859 feet, and was completed for 330 bbls. per day. It was drilled to 4,963 feet and was plugged back to 4,863 feet. Same company's No. 41-B Walton, in the center of a 16-acre tract, made 107 bbls. in 12 hours from a total depth of 4,863 feet. Seven-inch casing was cemented at 4,859 feet.

Edwards Plateau

Two wells on the Edwards Plateau are being watched with interest due to showings of oil and gas. Morrissey's No. 1 Karger, northeast of Kerrville, is drilling below 1,100 feet in the Ellenberger lime. The latest oil showing reported was at 1,095-98 feet, and production is expected from 1,500 to 2,000 feet. If the test is carried to 2,000 feet it will be the deepest test ever drilled into the Ellenberger on the Edwards Plateau.

In the northwestern part of Edwards County, Will Ohlhausen was expected to complete his No. 1-B Turney the first of the week. A showing of oil and gas was encountered from 405-07 feet. Casing has been cemented at 405 feet and it is waiting for cement to set. It is a rank wildcat in Section 176, C.C.S.D.&R.G.N.G. Survey. In the same area, H. H. Sides' No. 1 Turney is still shut down at 1,010 feet. It is in Survey No. 164. Northeast of Ohlhausen's No. 1-B Turney Harry Adams and 5 miles southwest of Phillips Petroleum Co.'s gas well, Harry Adams is drilling below 370 feet on his No. 1 Holman.

Amerada Petroleum Corp.'s No. 2 Halff and Oppenheimer, a deep wildcat test 4 miles southwest of Pearsall in the J. H. Gibson Survey, encountered another showing of oil from 8,760-8,981 feet and while trying to make a drill stem test, the drill stem was stuck. The operators are now trying to pull the drill stem in attempt to clean the well for another test. It had a show of gas from 5,712-17 and 5,753-56 feet and an oil and gas show from 5,801-03 feet. This is one of the deepest tests ever drilled in the Southwest Texas district.

In the Balcones Fault zone, J. E. Clark has abandoned his No. 1 Roughgarden at 2,417 feet, after it had encountered sulphur water in the Edwards lime at 2,398 feet. It is 8 miles southwest of Sequin in the J. O. Blair Survey, Guadalupe County. Southwest of the Darst Creek, L. E. Trout's No. 1 McKee in the Green DeWitt Survey, is drilling below 1,100 feet.

MEXICO

In the northern part of Mexico, Continental Oil Co. of Mexico's No. 3 Carlos Cantu is drilling in shale at 5,214 feet. It is 60 miles southwest of Reynosa, Mexico, across the Rio Grande from McAllen. Ohio Mex Oil Co.'s No. 2 Rancherias, 8 miles southwest of Rio Grande City, Tex., but in Mexico has recovered a lost drill bit and has cemented surface casing at 277 feet. Mexican-Gulf Petroleum Corp.'s No. 1 San Ambrosio is drilling at 6,043 feet. It is 40 miles southwest of Nuevo Laredo, Tamaulipas. Compania de Petroleo Mercedes' No. 1 Encantada near the town of Ochoa, is rigged up and ready to spud. Compania de Petroleo "El Charro's" No. 5 Rio Bravo, 35 miles southwest of Reynosa, is drilling at 1,485 feet.

Wildcat Operations in Southwest Texas

Week Ending September 29

BANDERA COUNTY

A. P. Crane & Co.'s No. 1 Watson, 988 ft. NE line, 926 ft. SE line, Sec. 71, Antonio Curvier Sur.
No report.

Peerless O. & G. Co.'s No. 1 Garrison Sur. No. 596, 1,500 ft. from N and 2,700 ft. from E lines of Sur. (8 mi. SW of Medina).
Prepare to start up at 496 ft.

BASTROP COUNTY

Champion et al's No. 1 Charles E. Anderson, Antonio Navarro Sur.
S.D. 850 ft.

BEE COUNTY

Tuleta Oil Co.'s No. 1 George Ray, 320 ft. from E line, midway between N and S lines of George Ray 208.7-ac. tract in Blanchard Sur., 3 miles SW of Tuleta Field.
Location.

Humble O. & R. Co.'s No. 1 Daniel Fox, 7,500 ft. from N line, 3,370 ft. from E line of 1,884-ac. tract in M. Fox Sur.
Location.

Worth Oil Co.'s No. 1 Rutledge, 1,000 ft. from N line and 300 ft. from E line of A. Hadley Sur.
S.D. for D.P. 1,300 ft.

BEXAR COUNTY

Lloyd Bender's No. 1 Evans, 1,300 ft. from W line, 200 ft. from N line of 313.7-ac. tract in de la Garza Sur.
T.D. 1,028 ft.; S.D.; moving in larger boiler and pump.

F. T. Chew's No. 1 C. S. Ogden & Brooks, 50 ft. E line, 2,500 ft. from Mitchell Lake, on 1,500-ac. tract, Irrigated farms.
Drlg. 350 ft.

M. J. Crouch's No. 3 Hoch, 1,500 ft. N of Medina River, 300 ft. W of E line of 239-ac. tract and 1,350 ft. NE of No. 2 gas well.
T.D. 230 ft.; standing.

Dr. Dickens' No. 1 Victor Golla, 150 ft. NW line and 150 ft. NE line of Cardines No. 25 Sur.
S.D. 530 ft.

Linda Oil Co.'s No. 1 Tomasi, Ignacio Perez Sur., 7,694 ft. NE along W line from SW cor., 450 ft. SE of NW line.
T.D. 1,200 ft.; drlg.

McFee & Briggs' No. 1 Carter, Manuel De Luna No. 3 Sur.
Rig up and S.D.

McFee & Briggs' No. 1 Clark, 160 ft. NE line and 2,625 ft. SE line of C. Thieme Sur., 4 miles S of Thelma.
Rigging up to pump, 895 ft.

McFee & Briggs' No. 1 Lamb, 9,200 ft. from S line, 800 ft. W line, Manvel Deluna Sur. No. 3, Tract A. & B.
T.D. 985 ft.; S.D.

Medina Oil Co.'s No. 1 Hendricks, 700 ft. S line, 400 ft. W line of 103-ac. tract, County Blk. 491, C. A. Yoakum Sur. No. 39.
T.D. 1,050 ft.; changing rigs.

Paul Meador's No. 1 Wm. Cantu, 305 ft. from SW line, 1,750 ft. from SE line of 50-ac. tract in Jose M. Ariola Sur., eastern part of county.
T.D. 2,242 ft.; P.B. to 1,490 ft.; prepare to make test.

BROOKS COUNTY

Cole Pet. Co.'s No. 1 Ulrich, 785 ft. E line, 1,323 ft. S line of C.C.S.D.&R.G.N.G. Sur. 7.
Drlg. 3,540 ft.

Mrs. Florence East's No. 1 Madrigal, Rafel Garcia Salinas grant, 800 ft. S line and E line, Share B.
T.D. 480 ft.

CALDWELL COUNTY

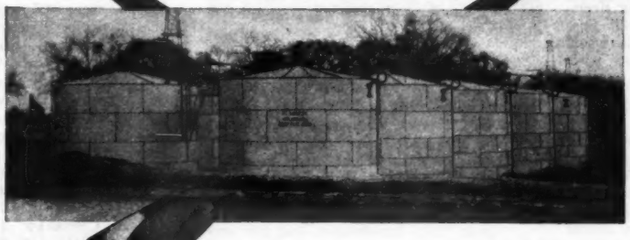
Anderson's No. 1 Perry, 330 ft. SE and NE lines of 27-ac. tract, Giddeon Pace Sur.
Standing 1,348 ft.

F. P. Hynes et al's No. 1 Tramwell, 750 ft. from SE line and 330 ft. from NE line of tract in Ester Berry Sur.
No report.

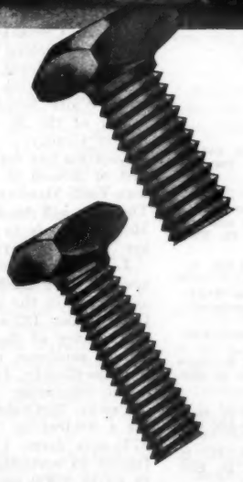
Kurz Oil Co.'s No. 1 Kurz ranch fee, 4,600 ft. SW line and 4,300 ft. SE line of Barnard Klekant Sur.
Drlg. 3,350 ft.

(Continued on Page 53)

UPSON



TANK BOLTS MAKE TIGHT TANKS



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Important Tests Are Planned in the Permian Basin; Wichita Falls District Locations Increased

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Oct. 1.—In the Permian Basin locations for the week totaled 12 and completions 14. Another test is planned in southwest Glasscock County by Currie and Wahlenmaier, who just completed a dry hole in this area. Two tests are planned for Brewster County, and one is said to be proposed for Presidio County. Another test is planned in the area about 4 or 5 miles southeast of the Hendricks Field in Winkler County, and other tests are talked of on a parallel trend between the Gulf-O'Brien Pool in northern Ward County, north to the Skelly Oil Co.'s recent sand discovery on the Halley farm and up through Sayre Oil Co.'s No. 1 Howe. This sand trend is expected to be played up into New Mexico, or along New Mexico's southeast boundary.

Jefferies, of Dallas, has staked location in the NE cor. NW Section 6, Block B-5, P.S.L. Survey, about 1½ miles southeast of the J. C. Maxwell and others' test on the Clapp ranch in Section 37, Block B-26, same survey. These two tests are several miles east of the Hendricks Pool, Winkler County, and are hoping to pick up the sand horizon which is paying off in the Halley well to the south. The Clapp test will be located between Sayre Oil Co.'s No. 1 Howe and the Halley producer. Sid Richardson is drilling a test in Section 18, Block B-11, on the south end of this trend, same county, and all these tests will be closely watched as they may condemn or prove the parallel trend from south to north, flanking the Hendricks Field "high" which produces from the lime.

Crane County

Another Ordovician test is preparing to get under way from 4,510 feet where a Permian lime test, drilled by Loffland Brothers and others on the Tubbs ranch, in western Crane County, has been standing shut down for some time. Location of this test, which is to be carried to sulphur water in the Ordovician, to 10,000 feet, or to oil and gas in commercial quantities below the present depth, is in Section 9, Block B-27, P.S.L. Survey, northeast of a small producer brought in by the Gulf Production Co. and Truett Cranfill, over three years ago. The Loffland Brothers test failed to pick up production in the horizon from which the discovery well is producing. This well was the first drilled in the district to produce oil in commercial quantities below the sulphur water horizon. A couple of other tests also failed to pick up this horizon.

Several companies have contributed for the deepening of the test. Humble Oil & Refining Co. and Gulf Production Co. hold the greatest number of acres under lease. The hole has been carried to its present depth with cable tools which will be used to carry the hole down until water is encountered at which depth a heavy rotary rig will be moved over the hole. This will be the seventh wildcat Ordovician test drilling in the district, the nearest being across Crane County on the west edge of Upton, being drilled by the Gulf Production Co. on its McElroy block. That test is now down 10,837 feet and encountering extremely hard "digging." Two such tests are drilling in Schleicher County, one in southern Reagan County and one in Glasscock County.

Ward County Extension

The interesting extension well in southern Ward County, Eppenauer Drilling Co.'s No. 1-B Combs, in the J. W. Hollingsworth Survey, flowed 210 bbls. of oil in 24 hours after it was shot this week. It is now being gauged for proration purposes. The completion of the extension opens acreage to production southwest of the Grand Falls producing area, and toward the new wildcat discovery across the Pecos River in Pecos County. That well is Tex-Mex Petroleum Co.'s No. 1 Netterville, in Section 59, Block 8, H.&G.N. Survey. It is bottomed at 2,290 feet flowing 30 bbls. per day, and may prove to be a part of the Ward County extension. At the present time it is treated as a new wildcat discovery in northern Pecos County.

Upton County

The wildcat of Broderick and Calvert on the Homer Trust & Savings Bank land, in Section 22, Block B-42, Township 4s, T.&P. Survey, in the northwest corner of Upton County, struck sulphur water at 4,808 feet, but is drilling deeper. Brown lime was topped at 4,600 feet and white lime at 4,668 feet. Elevation is 2,890 feet. It is running low and since encountering water looks disappointing.

Pecos County

Humble Oil & Refining Co.'s Permian lime test on the White and Baker ranch, in Section 4, Block 179, T.C. Survey, about 9 miles west of the Yates Pool, Pecos County, also encountered sulphur water. It is now shut down at 2,213 feet, 3 feet after logging the water. This is the second test drilled on this ranch by the company, a former test being drilled in quest of Ordovician production and carried below 9,000 feet, but proving dry.

Small Pumper in Crane

The Crane County semiwildcat of Gulf Production Co. on the Snodgrass lands, in Section 1, Block B-25, P.S.L. Survey, has come through as a small pumper making 50 bbls. the first eight hours at a total depth of 3,500 feet. Whether it will connect with the Caprito well (drilled and completed by the Wahlenmaier Petroleum Co. and others), 2 miles north in Section 12, will be proved later if a test is drilled on intervening acreage. A small pool may be proved connecting the two small producers. Tight lime conditions are responsible for only small producers being completed in this area.

Andrews County

Honolulu and Llano Oil Co.'s No. 1 Parker, in Section 7, Block A-44, P.S.L. Survey, Andrews County, is trying to drill by drill stem lost at 4,490 feet. Another interesting wildcat, Landreth Production Co.'s No. 1 Scharbauer, in Section 20, Block 44, Township 1n, is still fishing for tools. Total depth is 4,067 feet. This test is in northwest Ector County and has already encountered considerable gas and looks favorable.

S. S. Strauss of San Angelo is preparing to spud a wildcat in Section 13, Block 31, H.&T.C. Survey, about 8½ miles southwest of the McCamey Field in Upton County.

The new allowable set by the Railroad Commission curtailed the Yates Field, Pecos County, by 9,330 bbls. per day, or to 37,170 bbls. per day. Other reductions in West Texas allowables were in the Scarborough Pool in northern Winkler County, the Penn Pool in Ector County and the Howard-Glasscock Field. Scarborough was cut by 800 bbls. to 3,200 bbls., Penn by 1,250 bbls. to 5,000 bbls., and Howard-Glasscock by 3,500 bbls. to 14,000 bbls. per day.

WICHITA FALLS

There were 25 completions in the Wichita Falls district, with locations again increasing, this week's reports showing 38 new tests. The Railroad Commission is planning to cut back the allowable in the district, which will have a tendency to curtail heavy drilling such as has taken place during the past months before the drought curtailed drilling. Wells producing up to 2,000 feet will be curtailed to 10 bbls. per day, plus 5 per cent of their potential.

Albert Crenshaw and Whitehill Oil Corp. of Wichita Falls, have purchased the 54-acre lease, including nine wells with a daily gross production of 21 bbls., from White Brothers, in the southwest corner of the S. G. Hardaway Survey, Archer County.

Location has been staked 5 miles southeast of Alvord in Wise County by Lehman-Viehl Hardware Co. of Fort Worth. The test will be known as No. 1 S. L. McNay, and is in the H. Ledbetter Survey. It will be carried to 1,700 feet.

J. G. Jarvis and others of Fort Worth are to drill a 2,000-foot test on a 1,500-acre block in the southeast corner of the H. Williams 132-acre tract in the southeast corner of the Falls County School Lands, southeast of the town of Sunset in Wise County. Jack Runnells of Bryson is the contractor.

Pewitt, McCaskey and Reece are drilling a wildcat on the Summy and Riddle 37½-acre farm, 1½ miles northwest of Dexter in northeast Cooke County. It is to go to 3,000 feet and is on a 12,000-acre block.

There have been only 16 tests completed in the Ranger or West Central Texas district in the past two weeks. Nine were completed in Shackelford County, totaling only 137 bbls. daily new production.

Production in the Wichita Falls district for the week averaged 65,310 bbls. per day.

PANHANDLE DISTRICT

J. C. Bertrand and associates of Tulsa have a block of 5,000 acres around their No. 1 Drieschner wildcat, in Section 62, Block 10, H.&T.C. Survey, south of Chillicothe, in Hardeman County, which is to be drilled to 4,000 feet. Archer Drilling Co. of Wichita Falls, has contracted to drill the test which is shut down after setting surface pipe at 106 feet.

There were 16 tests completed in the Panhandle district during the week, 11 oil producers, the others gassers or dry. Fourteen locations were announced. Wheeler County having half. Production

(Continued on Page 50)

Wildcat Operations in West Texas

Week Ending September 29

ANDREWS COUNTY

R. S. Bond et al's No. 1 McCarley, 1,320 ft. from N and W, Sec. 29, Blk. 3, P.S.L. Sur.
Drlg. 1,660 ft.

Honolulu and Llano Oil Co.'s No. 1 J. E. Parker, 1,320 ft. from S line and 1,470 ft. from W line of Sec. 7, Blk. A-44, P.S.L. Sur.
Drlg. by tools.

Humble Oil & Ref. Co.'s No. 1 B. S. Walker, 660 ft. from E line and 660 ft. from S line of Sec. 6, Blk. A-43, P.S.L. Sur.
Drlg. 2,340 ft.

Humble Oil & Ref. Co.'s No. 2 Means, 1,980 ft. from S and 1,487 ft. from W, Sec. 6, Blk. A-19.
Set csg. 2,940 ft.

BREWSTER COUNTY

Joiner-McIntyre's No. 1, 353 ft. from S, 2,390 ft. from E of Sec. 31, Blk. 352, W. M. Mitchell Sur.
S. D. 2,100 ft.

COKE COUNTY

Wm. Hooper's No. 1 Gaston, 240 ft. from S line and 654 ft. from W line of Joseph Sur. No. 11.
S.D. 2,560 ft.

CRANE COUNTY

Continental Oil Co.'s No. 1 M. Dawson, 1,320 ft. from N and 440 ft. from E, Sec. 80, Blk. X.
Drlg. 1,865 ft.

Gulf Prod. Co.'s No. 1 E. M. Snodgrass, 1,320 ft. from N and 1,320 ft. from W line of Sec. 1, Blk. B-25, P.S.L. Sur.
17 bbls. oil per day 3,390-3,491 ft.; shot: T.D. 3,500 ft.; cleaning out.

CULBERSON COUNTY

Anderson-Pritchard Oil Corp., Magnolia Pet. Co. et al's No. 1 Borders, 1,255 ft. N and 2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur.
Fishing 423 ft.

Miller Bros.' No. 1 fee, 1,900 ft. from N and 660 ft. from E line of Sec. 21, Blk. 97, P.S.L. Sur.
S.D. 1,420 ft.

DAWSON COUNTY

Ray Albaugh et al's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur.
S.D. 2,957 ft.

ECTOR COUNTY

C. J. Davidson et al's No. 1 Cole, 660 ft. from N line and 660 ft. from W line of Sec. 10, Blk. 45, Twp. 1n, T.&P. Sur.
Shut in; storage full; T.D. 4,569 ft.

Harrison et al's No. 3 Addis, 1,650 ft. from N line and 2,200 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.
Rigged up.

Landreth Prod. Co.'s No. 1 Johnson, 440 ft. from N and W, Sec. 47, Blk. 43, Twp. 1s, T.&P. Sur.
Material.

Landreth Prod. Co.'s No. 2-A Texas Pacific Land Trust, 441 ft. from N line and 440 ft. from W line of Sec. 3, Blk. 43, Twp. 1s, T.&P. Sur.
T.D. 4,275 ft.; plugged back 4,248 ft.; testing.

Landreth Prod. Co.'s No. 1 Clarence Scherbauer, 660 ft. from S and E. lines of Sec. 20, Blk. 44, Twp. 1n, T.&P. Sur.
T.D. 4,067 ft.; 15,000,000 ft. gas here; fishing.

Phillips Pet. Co.'s No. 1 Kloh, 440 ft. from E line and 440 ft. from S line, Sec. 3, Blk. 43, Twp. 1s, T.&P. Sur.
Set csg. 3,981 ft.

Shell Pet. Corp.'s No. 3 Jones, 2,310 ft. from S line, Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur.
Drlg. 3,546 ft.

Skelly Oil Co.'s No. 1 Scarborough, 617 ft. from S and 660 ft. from E, Sec. 26, Blk. B-15, P.S.L. Sur.
Drlg. 2,315 ft.

Skelly Oil Co.'s No. 5-A University, 660 ft. from N and 1,980 ft. from E, Sec. 1, Blk. 35, University Sur.
Drlg. 3,467 ft.

Stanolind Oil & Gas Co.'s No. 8 J. M. Cowden, 440 ft. from S line and 440 ft. from W line, Sec. 34, Blk. 43, Twp. 1n.
S.D. 280 ft.

Stanolind Oil & Gas Co.'s No. 9 J. M. Cowden, 440 ft. from S line and 2,200 ft. from E line, Sec. 34, Blk. 43, Twp. 1n, T.&P. Sur.
T.D. 4,250 ft.; 317 bbls. in 1 day.

Sun Oil Co.'s No. 1 Wight, 2,200 ft. from S line, 440 ft. from W line, Sec. 2, Blk. 43, Twp. 1s, T.&P. Sur.
Drlg. plug 3,975 ft.

EDWARDS COUNTY

Harry Adams' No. 1 Holman, 1,650 ft. from N and 330 ft. from E, Sec. 22, C.C.S.D. &R.G.N.G. Sur.
S.D. 400 ft.

EL PASO COUNTY

Mesa Oil Co.'s No. 1 Coronado Valley.
Drlg. 1,322 ft.

FISHER COUNTY

Merry Bros. and Perrini, Inc., et al's No. 1 Doan, 660 ft. from S and E, Sec. 3, Blk. R., W. E. Richardson Sur.
Set 8¼-in. at 1,300 ft.

Texas Co.'s No. 2 Daniels, 330 ft. from N and W, Sec. 194, Blk. 1, B.B.B.&C. Sur.
Drlg. 3,635 ft.

(Continued on Page 52)

Second Test in Slocum Area Shows Salt Water; Mexia Trinity Sand Test to Be Carried Down

By L. E. BREDBERG

DALLAS, Tex., Oct. 1.—The second test in the Slocum area, south central Anderson County, was closely watched during the week to note its ending. It showed 2,800 feet of salt water at 5,410 feet and will probably be abandoned. This test was drilled by Byrd and Frost and others on the Burrows farm in the Vascue Survey, about 1 mile southeast of the first test drilled by the same operators. That test also proved dry after testing good showings of oil and gas. The second test did not encounter the good showings found in the first, although it ran higher on formations. Elevation is 408 feet and the base of the Austin was called at 5,307 feet and the top of the Woodbine section was logged at 5,365 feet. Clyde Creighton and others' No. 1 Holley, in the A.B.&M. Survey, southern Freestone County, has finally been abandoned at total depth of 5,817 feet after trying for over two years to find production.

The Trinity sand test of Peyton Brothers, on the Steubenrach lands, on the west side of the Mexia Field, Limestone County, was tested during the week after plugging back from 5,706 feet to 5,640 feet, and showed no signs of making an oil or gas producer from the lime which yielded oil and gas showings during the drilling. It will probably be carried to 6,000 feet as first proposed.

But few locations are being staked in the East Central Texas district now, operators and companies apparently having lost interest in the sector that yielded many dry holes during the past year and a half, and in which five pools proved other than first anticipated, four yielding more gas than oil, and three proving principally gas fields, with one discovery, that in Cherokee County, proving a one-well pool so far.

New Cherokee Test

Killough and others are preparing to spud a test 7 miles northwest of Jacksonville, in Cherokee County, and W. C. (Big Bill) McGlothlin of Corsicana is to try again for production in Henderson County, although having just completed a failure in eastern Navarro County, near the Henderson County line. His new test will be in the northeast corner of the Paul Lewis 88-acre tract in the Daniel Lacy Survey, northwest of Trinidad.

Zilkey and others' No. 1 Bradford, in the J. Armendaris Survey, shut down for two months, is now drilling at 4,500 feet with the hole caving. This test is south of the town of Rusk and east of the Rusk discovery in Cherokee County.

Wheeler and Collins' Trinity sand test on the Cerf farm on the west side of the Corsicana-Powell Pool, Navarro County, is drilling at 6,155 feet in sandy shale. It is in the James Smith Survey, and recently tested salt water at 5,343-5,420 feet.

EAST TEXAS

There were 66 wells completed in the East Texas Field during the week, 42 completed by majors drilling inside locations on their larger leases while smaller operators have been increasing the well density by drilling exceptional wells on small tracts, or subdividing tracts to drill more wells and get a larger allowable. The per well allowable of the field has been cut to 3.6 per cent of the hourly potential of each well, which will cut back production that has been on a constant increase because of the many wells completed each week. The decrease in allowable amounted to 30,000 bbls. per day, putting the daily allocation back to 400,000 bbls. However, an allowable in this field means little to some producers, as they never pay any attention to daily quota set for their wells, producing them only in accordance with the sale they have for their crude.

Stocks in East Texas on September 1, according to reports from the field, was 4,112,870 bbls., a drop of 981,045 bbls. from the total stocks checked on August 1. Companies may have been running a large amount from field storage in the event they might have use for considerable empty storage in the near future, in which case smaller operators, especially those who have not adhered to the proration rules, are wondering how and where they can dispose of their crude.

EAST TEXAS COMPLETIONS

Cherokee County

Marathon Oil Co.'s No. 3 Layne, top pay 3,700 feet, total depth 3,702 feet, initial production 78 bbls. per hour, open tubing. Smith and McRae's No. 1 Tipps, dry and abandoned 3,972 feet.

Anderson County

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Goode, total depth 4,035 feet, plugged back to 3,945 feet, initial production 15,000,000 feet gas.

Freestone County

Clyde Creighton's No. 1 Holley Brothers, dry and abandoned 5,817 feet.

Gregg County

Arkansas Fuel Oil Co.'s No. 31 Burnside, top pay 3,466 feet, total depth 3,491 feet, initial production 61 bbls. in one-half hour; No. 10 Rembert, top pay 3,464 feet, total depth 3,492 feet, initial production 45 bbls. in one-quarter hour. Atlantic Oil Producing Co.'s No. 10 Harris, total depth 3,535 feet, initial production 110 bbls. per hour. Bishop Oil Co.'s No. 5 Ritchie, top pay 3,558 feet, total depth 3,595 feet, initial production 46 bbls. in one-half hour. Humphrey's No. 3-A Thomas, total depth 3,625 feet, initial production 20 bbls. in one-half hour. Magnolia Petroleum Co.'s No. 15 Hineman, top pay 3,654 feet, total depth 3,660 feet, initial production 100 bbls. per hour. Reed's No. 2 Wood, total depth 3,630 feet, initial production 20 bbls. in one-half hour.

Shell Petroleum Corp.'s No. 9 Jones, total depth 3,549 feet, initial production 24 bbls. in one-quarter hour; No. 18 Ritchie, total depth 3,600 feet, initial production 40 bbls. in one-quarter hour. Sinclair Prairie Oil Co.'s No. 34 Moncrief, top pay 3,552 feet, total depth 3,597 feet, initial production 35 bbls. in one-quarter hour. Stanolind Oil & Gas Co.'s No. 5 Christian, total depth 3,652 feet, initial production 29 bbls. in one-half hour; No. 4-C Harley, total depth 3,567 feet, initial production 43 bbls. in one hour. Stanolind and Simms Oil Co.'s No. 3 Magrill, total depth 3,705 feet, initial production 32 bbls. in one-half hour. Sun Oil Co.'s No. 9 McKinley, top pay 3,617 feet, total depth 3,625 feet, initial production 48 bbls. Tide Water Oil Co.'s No. 13-A Nettleton, total depth 3,546 feet, initial production 9 bbls. in 10 minutes.

T. W. M. Oil Co.'s No. 8 Sabine River Bed, top pay 3,564 feet, total depth 3,570 feet, initial production 15 bbls. in one-half hour; No. 9 Sabine River Bed, top pay 3,588 feet, total depth 3,618 feet, initial production 15 bbls. in one-half hour. Yount Lee Oil Co.'s No. 9 Calvin, top pay 3,565 feet, total depth 3,586 feet, initial production 60 bbls. in one hour through open tubing. American Liberty Oil Co.'s No. 30 Sabine River Bed, top pay 3,525 feet, total depth 3,543 feet, initial production 110 bbls. Gulf Production Co.'s No. 9 Reeves, total depth 3,554 feet, initial production 75 bbls. per hour; No. 16 Still, top pay 3,497 feet, total depth 3,551 feet, initial production 72 bbls. per hour; No. 11 Strong, total depth 3,672 feet, initial production 72 bbls. per hour. Illinois Oil Co.'s No. 3 Bell, top pay 3,713 feet, total depth 3,715 feet, initial production 55 bbls. per hour. Invincible Oil Co.'s No. 6 Williams estate, total depth 3,592 feet, initial production 90 bbls. per hour. James & Co.'s No. 8 Sabine River Bed, top pay 3,537 feet, total depth 3,565 feet, initial production 60 bbls. per hour. Johnson and Owens' No. 3-A Cole, top pay 3,540 feet, total depth 3,560 feet, initial production 60 bbls. per hour. Kilgore Refining Co.'s No. 12 I.&G.N. Railroad, total depth 3,583 feet, initial production 60 bbls. per hour.

Magnolia Petroleum Co.'s No. 21 Hicks, top pay 3,717 feet, total depth 3,721 feet, initial production 88 bbls. per hour; No. 14 Griffin, top pay 3,545 feet, total depth 3,610 feet, initial production 17 bbls. in one-quarter hour; No. 4 Wells, top pay 3,659 feet, total depth 3,663 feet, initial production 112 bbls. per hour. Miller's No. 2 Crim, total depth 3,583 feet, initial production 50 bbls. per hour. Sinclair Prairie Oil Co.'s No. 39 Cole, total depth 3,564 feet, initial production 30 bbls. in one-quarter hour. Stanolind Oil & Gas Co.'s No. 8 Beall, total depth 3,653 feet, initial production 20 bbls. in one-quarter hour. Texas Co.'s No. 31 Cole, top pay 3,514 feet, total depth 3,562 feet, initial production 34 bbls. in one-quarter hour. Thompson's No. 8 Hilburn, top pay 3,637 feet, total depth 3,640 feet, initial production 130 bbls. per hour, open tubing. Cohen's No. 2 Colored Baptist Church, top pay 3,550 feet, total depth 3,633 feet, initial production 20 bbls. in two hours, swabbing.

Rusk County

Atlantic Oil Producing Co.'s No. 5-A Brock heirs, top pay 3,640 feet, total depth 3,757 feet, initial production 125 bbls. per hour, open tubing. Gulf Production Co.'s No. 6 Baton, total depth 3,657 feet, initial production 78 bbls. per hour, open tubing. Humble Oil & Refining Co.'s No. 108 Crim, total depth 3,615 feet, initial production 78 bbls. per hour, open tubing; No. 24-B Sexton, total depth 3,680 feet, initial production 75 bbls. per hour, open tubing. Kirby Petroleum Co.'s No. 7 Reddic, top pay 3,611 feet, total depth 3,708 feet, initial production 20 bbls. in two hours. Sinclair Prairie Oil Co.'s No. 9-B Kennedy, total depth 3,690 feet, initial production 20 bbls. in one-quarter hour. Stanolind Oil & Gas Co.'s No. 6 Christian, total depth 3,700 feet, initial production 33 bbls. in one-half hour. Turman Oil Co.'s No. 6-A Brightwell, total depth 3,629 feet, initial production 25 bbls. in one-quarter hour.

Amerada Petroleum Corp.'s No. 18 Stovall, top pay 3,618 feet, total depth 3,653 feet, initial production 16 bbls. in one-quarter hour. Boren Oil Co.'s No. 5 Stoddard, top pay 3,553 feet, total depth 3,626 feet, initial production 25 bbls. in two hours. Gant, Garvin and Wegoner's No. 11 Moore estate, top pay 3,526 feet, total depth 3,580 feet, initial production

East Central Texas Wildcats

Week Ending September 29

ANDERSON COUNTY

Byrd-Frost, Inc.'s No. 1 J. T. Burrow, 350 ft. N of S line, 35 ft. E of W line of M. Vascue Sur.
T. D. 5,402 ft.; to make drill stem test; light saturation 5,392-5,402 ft.

J. W. Lutter' No. 1 C. McKee, 357 ft. from S line, 340 ft. from W line of 100-ac. tract W. F. Pool Sur., SE of Frankston Sur.
Derrick.

F. L. Stone et al's No. 1 Tullis, 1,513 ft. from E and 1,000 ft. from S lines of Wm. Johnson Sur., 5 miles S of Rusk.
Location.

Tide Water Oil Co. et al's No. 2 Sullenberger, 467 ft. N and E of 363-ac. tract.
Snyder Sur.
Derrick.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1-C N. N. Wills, 477 ft. from S line and 467 ft. from W line of tract, Thomas Bristow Sur.
Location.

BOWIE COUNTY

Tex-Ark. Oil Co.'s No. 1 Hamilton Estate, 600 ft. E and 350 ft. N lines, J. Milan Sur., 4 miles S of Red River.
Derrick.

CHEROKEE COUNTY

H. L. Hunt Production Co.'s No. 1 Powell Lumber Co., 467 ft. from S and W lines of 52-ac. tract, 1 mile E and one-quarter mile N of discovery well, D. W. McNab Sur.
Location.

Jackson Oil & Gas Co.'s No. 1 H. D. Henderson, 660 ft. from N and W line of 40-ac. tract out of Tankersley 104-ac. tract, 5 miles NE of Jacksonville on W side of railroad, J. Pineda Sur.
S.D. 400 ft.

Guy Jameson et al's No. 1 Mullinsaux, cen. 20-ac. tract out of NW cor. of SE of T. M. Garrett Sur., 5 miles NW of Maydell.
Location.

South Gulf Oil Co.'s No. 1 Joe Bailey, center 164-ac. tract, 4 miles NE of Ponta, L. R. Rhodes Sur., Abstract No. 724.
S.D. 4,397 ft.

E. M. Thomason et al's No. 1 Addie Estate, 250 ft. S of survey and 150 ft. E of railroad, J. T. Jones Sur., 6 miles NW Alto.
Spudded.

Wilson Stubbs Oil Co.'s No. 1 Rowborts, 450 ft. from S line, 150 ft. from W line of 100-ac. tract, 2 miles SW of Jacksonville, J. D. Wolfin Sur.
S.D. 1,550 ft.

T. J. Wood et al's No. 3 New Birmingham Dev. Co., 660 ft. N and 330 ft. E of No. 1, Levi Jordan Sur.
Location.

Zilkey and McCulloch's No. 1 Bradford, 2,500 ft. from most southerly S line and 771 ft. from E line of survey, 4 miles E of Rusk, J. Armendaris Sur.
Washing to bottom 3,930 ft.

ELLIS COUNTY

Beckner-Finley et al's No. 1 Coker, 2,900 varas along S line of grant from river and 1,700 varas N at R/A, R. De La Pena Sur.
Shut down.

FANNIN COUNTY

L. Kean et al's No. 1 L. M. Boyd, 900 ft. from E line and 200 ft. from N line of survey, W. Hunt Sur.
S.D. 2,497 ft.

FREESTONE COUNTY

Burris' No. 1 R. J. Johnson, NE cor. of a 95-5-ac. tract, W. M. C. Jones Sur.
S.D. 1,000 ft.

Halley-Young's No. 1 Cochran, 400 ft. N and W lines, D. Bullock Sur., 1 mile SE of Lima.
Location.

E. L. Smith et al's No. 1 Reimple, 450 ft. out of NE cor. A. G. Smith Sur., 4½ miles S of Dew.
Derrick.

J. E. Wilburn's No. 1 S. McShan, 4,000 ft. from NWL and 5,000 ft. from NEL of survey, G. Diaz Sur.
S.D. 171 ft.

HENDERSON COUNTY

Campbell and Chamberlain's No. 1 R. Ansley, 1,724 ft. W and 300 ft. S of SE cor. of M. Matthews Sur., N. H. T. Thompson Sur.
S.D. 2,650 ft.

Cosden Oil Co.'s No. 1 Hunt & Miller, 990 ft. from N and 1,340 ft. from W lines of J. D. Hays Sur., 11 miles S of Chandler.
Ready to spud.

(Continued on Page 53)

35 bbls. Gulf Production Co.'s No. 11 Grissom, total depth 3,703 feet, initial production 34 bbls. in one-half hour. H. B. W. Oil Co.'s No. 10 Redwine, top pay 3,535 feet, total depth 3,570 feet, initial production 10 bbls. per hour. Howell & Hawkins' No. 3 Johnson, top pay 3,822 feet, total depth 3,891 feet, initial production 100 bbls. per hour. Humble Oil & Refining Co.'s No. 10 Caldwell, top pay 3,739 feet, total depth 3,771 feet, initial production 103 bbls. per hour; No. 11 Key, total depth 3,758 feet, initial production 84 bbls. per hour. Hunt Production Co.'s No. 4 Maxwell, top pay 3,695 feet, total depth 3,770 feet, initial production 23 bbls. per hour, pumping. Lide-Tayloe's No. 5 Young, total depth 3,745 feet, initial production 50 bbls. Marathon Oil Co.'s No. 74 Grissom, total depth 3,615 feet, initial production 66 bbls. per hour.

Marr Drilling Co.'s No. 1 Gossett, total depth 3,679 feet, initial production 15 bbls. per hour. Petroleum Marketing Co.'s No. 3 Barksdale, top pay 3,683 feet, total depth 3,745 feet, initial production 35 bbls. in 20 minutes. Rogers' No. 4 Maxwell, top pay 3,742 feet, total depth 3,772 feet, initial production 48 bbls. in one-half hour. Royal Petroleum Co.'s No. 8 Goforth, top pay 3,769 feet, total depth 3,772 feet, initial production 40 bbls. in one-half hour. Stanford's No. 2 Pinkston heirs, top pay 3,658 feet, total depth 3,670 feet, initial production 30 bbls. in one-half hour. Standard of Kansas' No. 3 Kangerga, top pay 3,636 feet, total depth 3,682 feet, initial production 130 bbls. per hour. Sun Oil Co.'s No. 13 Hendon, top pay 3,550 feet, total depth 3,640 feet, initial production 20 bbls. per hour, swabbing. Sun Oil Co.'s No. 14 Hendon, top pay 3,525 feet, total depth 3,581 feet, initial production 20 bbls. per hour. Wainwright-West's No. 1 Pinkston, top pay 3,505 feet, total depth 3,615 feet, initial production 20 bbls. in one-half hour. Ward Oil Co.'s No. 26 Thrash, top pay 3,788 feet, total depth 3,826 feet, initial production 72 bbls. per hour.

Humble Oil & Refining Co.'s No. 137 Crim, top pay 3,590 feet, total depth 3,604 feet, initial production 72 bbls. per hour; No. 138 Crim, top pay 3,590 feet, total depth 3,606 feet, initial production 89 bbls. per hour. Atlantic Oil Producing Co.'s No. 4 Lee, top pay 3,754 feet, total depth 3,764 feet, initial production 60 bbls. per hour. Humble Oil & Refining Co.'s No. 16 Box, top pay 3,754 feet, total depth 3,809 feet, initial production 80 bbls. per hour; No. 7 Joyner, top pay 3,696 feet, total depth 3,699 feet, initial production 100 bbls. per hour. Nathan's No. 1 Redwine, top pay 3,545 feet, total depth 3,575 feet, initial production 20 bbls. in two hours, pumping. Rogers' No. 7 Maxwell, top pay 3,712 feet, total depth 3,712 feet, initial production 45 bbls. in 30 minutes.

Smith County

Hinton's No. 11 Mayfield, top pay 3,770 feet, total depth 3,771 feet, initial production 80 bbls. per hour. Strickland-Mullins' No. 2 Cole, top pay 3,816 feet, total depth 3,819 feet, initial production 125 bbls. per hour. Texas Co.'s No. 18 Blackwell, top pay 3,666 feet, total depth 3,684 feet, initial production 70 bbls. per hour, open tubing.

Hunt County

Long and Wolfe's No. 1 Aetna Life Insurance Co., dry and abandoned 3,315 feet. Winans and others' No. 1 Phillips, location abandoned.

Limestone County

Foster's No. 1 Wright, dry and abandoned, 366 feet. Thompson and others' No. 1 Daniels, location abandoned.

Upshur County

Barclay-Crotty's No. 7 Webb, top pay 3,694 feet, total depth 3,711 feet, initial production 60 bbls. Gulf Production Co.'s No. 2 Penn, total depth 3,576 feet, initial production 25 bbls. per hour. Lyons-Wadley's No. 10 Dunbar, top pay 3,648 feet, total depth 3,652 feet, initial production 20 bbls. in one-half hour. Magnolia Petroleum Co.'s No. 22 Free, top pay 3,649 feet, total depth 3,654 feet, initial production 65 bbls. per hour. Oils, Inc.'s No. 4 Sanders, top pay 3,611 feet, total depth 3,632 feet, initial production 50 bbls. per hour. Phillips' No. 3 Free, dry and abandoned 3,735 feet.

Van Zandt County

Martin-Evans' No. 1 Palmer, dry and abandoned 1,305 feet. Pure Oil Co.'s No. 7 Shirley, total depth 2,975 feet, initial production 20 bbls. per hour through eleven-sixteenths inch tubing choke.

West Texas Fields

(Continued from Page 48)

for the district averaged 61,725 bbls. for the week, or a gain of around 2,640 bbls. per day.

WEST TEXAS COMPLETIONS

Ector County

Stanolind Oil & Gas Co.'s No. 4 Cowden, top pay 3,936 feet, total depth 4,328 feet, shot with 300 quarts from 3,932-4,140 feet, initial production 170 bbls. per day.

Fisher County

General Crude Oil Co.'s No. 2 Bledsoe, total depth 3,118 feet, initial production 620 bbls. per day pumping.

Glasscock County

Wooten's No. 3 Turner, top pay 2,189 feet, total depth 2,191 feet, initial production 92 bbls. per hour pumping.

Howard County

Continental Oil Co.'s No. 11 Settles, top pay 2,250 feet, total depth 2,350 feet, initial production 48 bbls. per hour pumping.

Loving County

Martin and others' No. 1 Ramsey, top pay 4,220 feet, total depth 4,270 feet, initial production 84 bbls. per day. Slack's No. 1 Covey and others, top pay 4,244 feet, total depth 4,260 feet, plugged back to 4,255 feet, initial production 45 bbls.

Ward County

California Co.'s No. 6 Durgin, top pay 2,455 feet, total depth 2,525 feet., initial production 561 bbls. per day; No. 8 Durgin, top pay 2,322 feet, total depth 2,538 feet, initial production 605 bbls. per day; No. 10 Durgin, top pay 2,372 feet, total depth 2,540 feet, initial production 465 bbls. per day. Gulf Production Co.'s No. 50 O'Brien, top pay 2,599 feet, total depth 2,766 feet, shot 160 quarts from 2,677-2,760 feet, initial production 172 bbls. in six hours, then bridged; No. 32 Hutchings, top pay 2,530 feet, total depth 2,765 feet, initial production 479 bbls. per day with 1,698,000 feet of gas. Rodger and Graham's No. 1 Wallis, top pay 2,395 feet, total depth 2,451 feet, initial production 97 bbls. per day.

Winkler County

Sinclair Prairie Oil Co.'s No. 2-A Scarborough, top pay 2,845 feet, total depth 3,022 feet, shot with 165 quarts from 2,897-3,007 feet, initial production 43 bbls. per day; No. 3-A Scarborough, top pay 2,863 feet, total depth 3,026 feet, shot 140 quarts from 2,929-3,010 feet, initial production 45 bbls. per day.

WEST CENTRAL TEXAS (RANGER) COMPLETIONS

Brown County

Sherwood Oil Co.'s No. 2 Leatherwood, top pay 1,192 feet, total depth 1,210 feet, initial production 10 bbls. Evans' No. 1 Moore, dry and abandoned 569 feet.

Callahan County

Spencer's No. 1 George, dry and abandoned 843 feet. Ungren and Frazer's No. 3-B Jackson, total depth 918 feet, initial production 40 bbls.

Coleman County

Condor Petroleum Co.'s No. 2 Horn, total depth 1,120 feet, initial production 3,370,000 feet of gas.

Shackelford County

Gilman and McMurry's No. 10 Jeter, top pay 931 feet, total depth 949 feet, initial production 40 bbls. after shooting with 40 quarts; No. 2 Morris and Buie, top pay 1,593 feet, total depth 1,601 feet, initial production 40 bbls. Goodlow and Merridith's No. 4-B Mathews, total depth 794 feet, initial production 15 bbls. Jack Moore's No. 1 Thorp, dry and abandoned 450 feet. Poly Oil Co. and others' No. 7 Spears, top pay 705 feet, total depth 712 feet, initial production 12 bbls. Reliance Oil Co.'s No. 18-8 Matthews, top pay 782 feet, total depth 798 feet, initial production 30 bbls. Roeser & Pendleton's No. 1 Strip-Cook, dry and abandoned 1,486 feet. Snebold and others' No. 4 Spears, dry and abandoned 706 feet. Texas Central Oil Co. and others' No. 3 Lee, dry and abandoned 375 feet.

Eastland County

Harper's No. 1 Connor, dry and abandoned 1,350 feet.

NORTH CENTRAL TEXAS

Archer County

Burk Royalty Co.'s No. 4 Pace, dry and abandoned 1,161 feet. C. E. Beavers' No. 1 Prideau, dry and abandoned 650 feet. Burns' No. 9 Perkins, abandoned location. F. H. E. Oil Co.'s No. 1 Kovar, dry and abandoned 1,459 feet. Garretson and Clement's No. 1 Andrews, dry and abandoned 895 feet. W. B. Hamilton's No. 18 Pace, top pay 1,142 feet, total depth 1,156 feet, initial production 125 bbls. Hedrick and others' No. 1 Coleman, dry and abandoned 1,503 feet. Staley and others' No. 2 Andrews, dry and abandoned 1,006 feet. Steele's No. 1 Cooper, dry and abandoned 1,426 feet. Bridwell and Texas Co.'s No. 2 Oil Investment Co., dry and abandoned 1,564 feet.

Cooke County

Erlewine's No. 3 Dennis, top pay 1,353 feet, total depth 1,360 feet, initial production 108 bbls.

Wichita County

Burns' No. 1 First National Bank, dry and abandoned 1,805 feet. Daniels Drilling Co.'s No. 6 Ferguson, dry and abandoned 580 feet. Kouri's No. 1 Peterson, dry and abandoned 402 feet.

Wilbarger County

Luther Webb's No. 1-C Waggoner, dry and abandoned 2,015 feet. Consolidated Oil Co.'s No. 1-Z Waggoner, No. 2-X Waggoner and No. 1-AA Waggoner, abandoned locations.

Young County

Crabb's No. 2 Hamilton, dry and abandoned 935 feet. Cotton's No. 1 Wells, dry and abandoned 902 feet. Hooker's No. 1 Webb, dry and abandoned 812 feet. Nash and Windfohr's No. 14 Graham-Vick, top pay 2,579 feet, total depth 2,597 feet, initial production 365 bbls. per day. Parks' No. 1 Stewart, dry and abandoned 565 feet. Texas Co.'s No. 10-A Finck, top pay 655 feet, total depth 671 feet, initial production 12 bbls. Wooten and Reed's No. 2 Watson, dry and abandoned 571 feet.

ROOTS-CONNERSVILLE ADDITION

A recent addition to the line of centrifugal compressors and exhausters built by the Roots-Connersville Blower Corp., Connersville, Ind., is the single-stage Type "OIB" unit. In this design the machines have their own shafts and bearings and are suitable for direct connection to standard electric motors or steam turbines, without special shaft extensions. They are also adaptable to V-belt or flat belt drive. Impellers are furnished in aluminum or carbon steel in the standard construction, but special alloys can be supplied where conditions require. Open-type impellers are used in the smaller sizes, with closed type for larger machines. Each impeller is designed to meet specified requirements.

ROCKY MOUNTAIN FIELDS

The estimated daily average production in the Rocky Mountain fields for the week ended September 29 follows:

WYOMING

	Bbls.
Salt Creek	17,950
Big Muddy	1,760
Badger Basin	30
Byron	440
Dallas Derby	320
Dutton Creek	80
Elk Basin	530
Ferris	30
Frannie	2,300
Garland	1,390
Grass Creek	2,310
Greybull	10
Hamilton Dome	1,500
Hudson	180
LaBarge	1,490
Lance Creek	310
Lost Soldier	1,510
Mule Creek	shut in
Midway	100
Notches	shut in
Oregon Basin	3,490
Osage	750
Pilot Butte	20
Rex Lake	70
Rock River	1,530
South Casper	590
Poison Spider	230
Teapot	20
Total Wyoming	38,930

MONTANA

Buckley-Border	250
Cat Creek	620
Cut Bank	4,000
Dry Creek	0
Kevin-Sunburst	5,580
Lake Basin	40
Pondera	1,020
Total Montana	11,510

COLORADO

Florence	230
Fort Collins and Wellington	510
Iles Dome	1,880
Moffat	440
Orchard	100
Rangely	90
Tow Creek	200
Total Colorado	3,450

NEW MEXICO

Artesia	570
Cooper area	760
Empire area	100
Eunice area	3,450
Getty Pool	0
Hobbs	33,080
Hogback	210
Hospah	shut in
Jal	3,060
Lea area	1,760
Jackson	1,600
Maljamar	370
Rattlesnake	740
Table Mesa	90
Total New Mexico	45,790
Total Rocky Mountain region	99,680

Increased Demand Shown for Pennsylvania Grade

BRADFORD, Pa., Oct. 1.—Pennsylvania Grade crude oil production totaled 21,197,000 bbls. in 1933, according to figures just released by the U. S. Bureau of Mines. This was a slight decrease from the 21,520,000-bbl. figure for 1932. Indicated domestic demand, however, advanced by a considerably wider margin, registering 22,546,000 bbls. for 1933, compared with 21,178,000 bbls. in 1932. An increase in domestic demand for Pennsylvania Grade crude oil of 1,223,000 bbls. in 1933 is indicated. At the close of 1932 stocks of Pennsylvania Grade crude held in the United States totaled 2,107,000 bbls. at refineries and 4,850,000 bbls. in pipe lines and tank farms. At the close of 1933 the stocks at refineries were 1,699,000 bbls., and in pipe lines and tank farms, 3,882,000 bbls., making a total decline for 1933 of 1,376,000 bbls.

A comparison of the value of the crude oil marketed in the Pennsylvania Grade states shows a decline of $1,410,000 for 1933, with the State of Pennsylvania alone showing a slight increase:

State—	1933	Bbl. ave.	1932	Bbl. ave.
New York	$5,960,000	$1.87	$6,630,000	$1.89
East Central Ohio	3,490,000	1.69	4,230,000	1.18
Pennsylvania	23,590,000	1.87	24,400,000	1.89
West Virginia	5,860,000	1.54	6,050,000	1.56
	$38,900,000		$40,310,000	

Material Balance Used in Vapor Composition

(Continued from Page 30)

of the apparatus concerned, and is therefore useful only in that degree of efficiency. Because of this, calculated results will be carried only to comparatively round numbers. The assumption in this specific problem of a constant temperature throughout the tower is not entirely correct, as the temperature varies throughout its length. Thus the problem is applicable best to stabilizer units where the temperature is most nearly constant.

A natural gasoline composed of 40 mol. per cent butane and 60 mol. per cent pentane is pumped into a vaporization unit maintained at 100° F. and at 25 pounds per square inch absolute pressure. The basis of the calculation will be 1 pound mol. of this mixture. Since the vapor pressure of the liquid at 100° F. is greater than 25 pounds per square inch, part of it will be vaporized in the unit. That fraction of the pound mol. which is vaporized will be designated as V mols. Then, since 1 pound mol. was fed in, the liquid remaining will be (1—V) mols. The mol. fraction of butane in the feed is X_{f_1}; in the vapor, Y_{v_1}, and in the liquid, X_{l_1}. The mol. fractions of pentane are respectively the same but with the suffix 2 instead of 1.

At this point the principle of material balance is introduced. In simple words this means that the same quantity of a hydrocarbon entering a system leaves the system at some other point or points. This balance holds for units operating at normal distillation temperatures. Thus as all of the butane which enters the unit in the feed leaves either as vapor or liquid, we may equate these amounts thus:

1 pound mol. $\times X_{f_1} = V$ pound mols. $\times Y_{v_1} + (1-V) \times X_{l_1}$.

Raoult's law, which deals with partial pressures, states:

$$\pi Y = PX$$

where π is the total pressure (25 pounds per square inch).

Y is the mol. fraction of any hydrocarbon in the vapor.

X is the mol. fraction of any hydrocarbon in the liquid.

P is the partial pressure of the hydrocarbon in the pure state.

Considering butane and pentane, the symbols X and Y in the law above are the X_1 and Y_v for the two hydrocarbons in this problem, thus:

$$\pi Y_v = PX_1$$

$$\text{and } Y_v = \frac{PX_1}{\pi}$$

substituting the value of Y_v in the material balance equation,

$$X_f = V\frac{PX_1}{\pi} + (1-V)X_1$$

By algebraic manipulation, the equation takes the form

$$X_1 = \frac{X_f}{1 + V\left(\frac{P}{\pi} - 1\right)}$$

The absence of the suffixes 1 and 2 will be noted. The general equation applies to both butane and pentane. The values of P are found on a standard vapor pressure chart.[1] Knowing the temperature and the hydrocarbon, its vapor pressure can be read.

All values on the right hand side of the equation are known excepting V. This must be found by a procedure of trial and error. Table I is suggested as a working form. Assume a value of V between 0 and 1. Carry the computations toward the right, totaling the values found for the mol. fractions in the liquid ($X_{l_1} + X_{l_2}$) until they add up to 1.0. The value of V for this condition is the correct value. In this example V is found to be .5. As shown in the first assumption of V=.25, the liquid fractions total less than 1 and the vapor fractions greater than 1. With practice in this manipulation and a general knowledge of operating conditions in the natural gasoline plant, it is not difficult to find the correct value of V.

The use of this problem may be found in anticipating yields with known temperature and pressure conditions. Thus the plant operator designing a unit may assume various combinations of pressure and temperature and find his approximate yields for each setup.

[1]Vapor pressure chart for hydrocarbons by Brown and Coats, University of Michigan, Ann Arbor, Mich.

PIPE LINE CONSTRUCTION

EAST TEXAS LINES

AUSTIN, Tex., Oct. 1.—The East Texas oil and gas division office of the Railroad Commission has recommended that the commission deny renewal of a permit to the Rose Gathering System, the Overland Gathering System, the Ponco Pipe Line Co., and the W. C. Turnbow Pipe Line Co. for operation of a gathering system pipe line in Rusk and Gregg Counties.

The commission has set for hearing at Austin, October 4, the question whether the reissuance of a permit will be granted, as sought by these applicants.

LOUISIANA LINE

H. C. Price, Inc., of Bartlesville, Okla., announce they have completed the electric welding of 20 miles of 8-inch oil line for the Pure Oil Pipe Line Co. in Louisiana. The general contractor was the Apex Construction Co. The welding was completed in 21 working days.

CALIFORNIA CONTRACTS

The San Francisco office of H. C. Price, Inc., announce that they have been awarded two contracts for the electric welding of pipe lines in California. One is for the electric welding of 8,900 feet of 54-inch water line for the city of San Francisco—the general contractors are Barrett & Hilt of San Francisco. The other contract is for the electric welding of 35 miles of 12¾-inch oil line for the Standard Oil Co. of California—the general contractors are Lindgren & Swinerton, Inc.

LINE IN MINNEAPOLIS

Williams Brothers Pipe Line Co., Tulsa, has been awarded the contract for laying a combination coupled and welded 20-inch diameter steel gas line to change over the system of the Minneapolis Gas Co. from artificial to natural gas. There will be 6 miles of pipe to be laid in the city of Minneapolis, Minn. It is a regular city job involving considerable concrete replacement work. The pipe will be welded into two and three-sections and then coupled and lowered into the ditch. The work is now under way and being carried forward as rapidly as possible.

UNDERGROUND PIPE LOCATOR

RADIO INSTRUMENT LOCATES EXACT CENTER OF BURIED PIPE LINES

COMPACT, PORTABLE INSTRUMENT SAVES TIME, LABOR, EXPENSE

The Underground Pipe Locator gives the exact location of buried pipe lines. It locates and traces mains, flow lines, lateral tap lines, unauthorized "hot oil" lines, whether connected to the main line or direct to the producing well, in open country or in congested production field areas. The successful operation of the instrument is not affected by electrical interference such as electric power lines. Working depth up to 50 feet.

On reconditioning jobs, even in pipe congested right-of-way, this instrument quickly locates the old line, whether oil or gas, ahead of the ditching crew.

The instrument consists of a transmitter and radio receiver. The transmitter establishes a "field" by making one connection to the pipe line, valve or other possible connection and another to a ground rod several feet away.

Location of the pipe is determined when the operator carrying the radio receiver and the loop antenna, hears the transmitter signal in the ear phones, which indicates he is directly above the line. The instrument also functions without making connection to the pipe line by using two ground rods to establish a "field."

The average workman easily operates this proven instrument. It is very dependable and will last for years.

The price complete, with instructions for operating, is $150.00 f. o. b., Houston, Texas.

CRUTCHER-ROLFS-CUMMINGS-INC.

Specialized Service in PIPE LINE EQUIPMENT AND MATERIALS

HOUSTON, TEXAS U.S.A.

Methods and Equipment for Field Testing of Large Capacity Positive Meters

By B. PORTER
United Gas Co., Houston, Tex.

Large capacity positive meters are an important factor in the measurement of natural gas. The regular testing of these meters in the field is necessary in order that their accuracy and efficiency may be maintained. The generally accepted methods are: (1) The critical flow prover; (2) the low pressure flow prover; (3) the diaphragm type test meter.

1. The critical flow prover must be operated at a pressure of at least 15 pounds gauge and is, therefore, adaptable to the testing of meters operating at a pressure equal to or greater than 15 pounds gauge.

The apparatus usually consists of a piece of 2-inch pipe 12 inches long with orifice flange at one end and three-eighths inch tap located about 4 inches from the flange, a thermometer usually ranging from minus 20° F. to plus 120° F. inserted in cylindrical case with three-eighths inch connection, a stop watch, and a set of five calibrated orifices ranging in capacity from 250 feet to 6,000 feet per hour, index rating. Upon each orifice must be stamped the correct time for the passage of 1 cubic foot of air, index rating, at 60° F.

The prover is connected as close to the downstream side of the meter as possible. A 2-inch gate or stop cock is usually installed for this purpose. After the connection is made, it is necessary to run a leakage test. This may be done by placing a blind plate in the orifice flange, applying the pressure and using soapsuds on all connections. Meters should be tested when possible at their operating pressures, with at least three separate orifices or at three different rates. These are commonly known as the check, intermediate and open rate. The selection of these orifices should cover the range of the demand upon the meter. The pressure should remain fairly constant throughout each test and a sufficient interval should elapse for the meter to become thoroughly purged and the thermometer to indicate the true temperature before starting to check the time. The test time for each orifice should be not less than 100 seconds and should cover one or more revolutions of the proving hand.

To determine the correct time for the passage of any number of feet, multiply the number of feet passed by the standard air time of the orifice and this result by the factors for temperature, specific gravity and ratio of specific heat. These factors, although they may be worked out by the individual, are published by the various meter companies.

Meter inspectors may save considerable time and eliminate errors by preparing a set of tables showing the correct time for the passage of a definite number of feet on each orifice. These tables should cover the range of the temperature, specific gravity and ratio of specific heat encountered in their respectice territories.

The proof of a meter is the actual time in seconds as shown by the stop watch divided by the correct time as determined by the method described above. Extreme care should be exercised in handling the prover set in order that the orifices may not become defaced or corroded.

Low Pressure Prover

2. The low pressure flow prover is in reality a small orifice meter operated at a pressure of from 4 to 8 ounces. It is commonly used for testing meters whose operating pressure ranges from 4 ounces to 15 pounds.

The apparatus consists of two lengths of 2-inch or 4-inch aluminum pipe with special flange, a stop watch, a U gauge, a thermometer, an Aneroid barometer and a set of six orifices of various sizes. The standard time in seconds required for the passage of 1 cubic foot of air at unit conditions is stamped upon the outlet side of each orifice. Unit conditions are: any upstream pressure, a downstream pressure at eight diameters below the orifice of 29 inches mercury absolute, a differential across the orifice of 8 inches of water and a temperature of 60° F. The length of the pipe on the upstream side is from 8 to 12 diameters. It is equipped with straightening vanes and a pressure tap one diameter above the orifice. The length of pipe on the downstream side is eight diameters.

The pressure is taken off the meter and the prover attached to the outlet or to a connection near the outlet. The U gauge is attached to the pressure tap one diameter upstream from the orifice. An orifice of desired capacity is placed in the flange. The pressure is then applied from a valve on the inlet side of the meter until it remains constant between 5 and 10 inches of water, as indicated on the U gauge. A leakage test is then made by applying soapsuds to all joints. It is important that there is no backflow through the downstream gate. This can be prevented by installing a blind plate in the flange on the upstream side of the outlet gate.

In order to arrive at the correct time in each test where the specific gravity is known, it is necessary to note the following conditions: the temperature at a point approximately 2 inches from the outlet of the prover, the barometer reading in inches of mercury, and the number of inches water pressure on the U gauge. The test time is then checked by means of a stop watch for not less than 100 seconds and for one or more complete revolutions of the proving hand. The correct time is the number of feet passed multiplied by the orifice standard time and the result in turn multiplied by the factors for test pressure in inches of water, barometer pressure in inches of mercury, temperature and specific gravity. Also note pressure drop between meter and prover.

All the above mentioned factors can be obtained from the meter companies, or may be worked out by the individual if preferred. The proof of the meter is the test time divided by the actual time as described in Section 1. The same care should be exercised in handling the low pressure prover as in the critical flow prover.

Diaphragm Type Test Meter

3. The diaphragm type test meter is nothing more nor less than a positive displacement meter of aluminum casting which is tested and adjusted in the meter shop and transported to or from the different locations. This method of testing is especially applicable to field meters operating at a low pressure.

The test meter is connected in series with the field meter and should be placed as near the field meter as conditions permit. The gas is passed through both meters at the same pressure and temperature and discharged either into the line or into the atmosphere. Where it is not possible to have both meters operating at the same pressure and temperature, it is necessary to apply pressure and temperature conversion factors in order that unit conditions may exist. Test meters should be correctly tested and adjusted in the shop by means of a bell prover before leaving for the field and again upon the completion of each day's work. Particular care should be exercised in handling the test meter as excessive jarring may change the proof.

It is not intended that the foregoing shall be construed as a set of iron-clad rules, as conditions may necessitate changes, but in general they are in accordance with accepted practice.

When the location of a meter renders it necessary for the inspector proving with gas to do his work inside a building, certain safety hazards develop which require additional equipment in order to carry the discharged gas to outside of the building. The United Gas Public Service Co. has overcome this condition as follows:

In the critical flow method it was necessary to add to the equipment a 20-foot section of 2-inch spiral suction hose with 2-inch brass connections, the end of which is connected to the outlet of the prover by means of a special flange adaptable to the half flange on the prover. The outlet of the hose is then carried out of the building and fastened on the leeward side of the building as near the roof as possible. The accuracy of the critical flow method is not affected by the installation of this extra equipment, provided the absolute upstream pressure is double or more than double the absolute downstream pressure.

In addition to the 20-foot section of hose, the low pressure prover method requires the substitution of a section of aluminum pipe for the downstream side of the orifice at least 12 diameters in length, with meter flange on one end and hose connections on the other. A pressure tap must be made eight diameters downstream from the orifice and a thermometer tap 12 inches below the orifice. An extra U gauge is also required. In making the prover connection with this method, one side of the U gauge is attached to the upstream pressure tap and the other to the downstream pressure tap. One side of the extra U gauge is attached to the downstream pressure tap and the other open to the atmosphere. The thermometer is inserted in the thermometer tap by means of a rubber plug. In order to arrive at the absolute outlet pressure in each test, it is necessary to read the U gauge connected to the downstream pressure tap, convert this downstream pressure to inches of mercury and add to barometer reading. All other factors remain unchanged.

In the diaphragm type test meter method it is only necessary to attach the hose to the outlet side of the test meter and pass the gas out of the building.

In this discussion no attempt has been made to touch upon the problems presented by the field repairing of large capacity positive meters as the methods used are similar to shop methods. The repairing of positive meters is a subject within itself.

West Texas Wildcats

(Continued from Page 48)

Texas Co.'s No. 1 First National Bank of Rotan, 330 ft. N and E of the NW cor. of Sec. 210, B.B.B.&C. Sur.
Drlg. 2,978 ft.

GLASSCOCK COUNTY

John L. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 22, Blk. 34, Twp. 2s, T.&P. Sur.
Rigging rotary; T.D. 3,925 ft.

Wahlenmaier Pet. Corp.'s No. 1 Boyd, 990 ft. from N and E, Sec. 9, Blk. 36, Twp. 5s, T.&P. Sur.
Machine.

HOWARD COUNTY

Eastland Oil Co.'s No. 2 Chalk, 2,310 ft. from S line, 990 ft. from W line, Sec. 126, Blk. 29, W.&N.W. Sur.
T.D. 1,858 ft.; testing.

Fred Hyer et al's No. 1 Clay, 2,310 ft. from N and 330 ft. from E, Sec. 126, Blk. 29, W.&N.W. Sur.
S.D. 157 ft.

L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, Blk. 30, Twp. 1s, T.&P. Sur.
Derrick.

Illinois Oil Co.'s No. 1 Logan, 990 ft. from N line, 2,310 ft. from E line, Sec. 2, Blk. 30, Twp. 1s, T.&P. Sur.
T.P. 2,565 ft.; drlg. 2,652 ft.

Iron Mountain Oil Co.'s No. 1 Read, 330 ft. from E line, 330 ft. from S line, Sec. 46, Blk. 30, Twp. 1n, T.&P. Sur.
Drlg. 560 ft.

Phillips Pet. Co.'s No. 1 Davis, 990 ft. from E and 2,310 ft. from S line, Blk. 30, Twp. 1s, T.&P. Sur.
Drlg. 2,760 ft.; T.P. 2,643 ft.

Siegel's No. 1 Foster, 990 ft. from S and 330 ft. from W, Sec. 43, Blk. 29.
Spudded.

IRION COUNTY

Melrose Oil Co.'s No. 1 J. D. Sugg, 1,700 ft. from the E line and 305 ft. from the S line of Sec. 25, Blk. 2, H.&T.C. Sur.
S.D. 270 ft.

Williams-Short's No. 1 Gentry, 2,200 ft. from N line and 2,080 ft. from W line of Sec. 1, Blk. 3, H.&T.C. Sur.
S.D. 1,450 ft.

JONES COUNTY

Capital Oil Co.'s No. 1 Young, 150 ft. S and 320 ft. E of W 32 acres of 84-acre tract, R. Smith Sur.
Drlg. 190 ft.

Clifton & Brazelton et al's No. 1 Cassey, 300 ft. from N and W lines of SE cor. of Sec. 15, Blk. 15, T.&P. Sur.
S.D. 850 ft.

Choate et al's No. 1 Faver, 170 ft. from S and E of Subdiv., A. Thompson Sur. No. 30.
Drlg. 500 ft.

Condor Pet. Co.'s No. 3 Sayles, 650 ft. from S and 330 ft. from W, Sec. 1, Blk. 20, T.&P. Sur.
Location.

John Byram et al's No. 1 P. Jones, 200 ft. from S and 660 ft. from W of NW, Sec. 5, Blk. 15, T.&P. Sur.
Drlg. 1,517 ft.

Richards et al's No. 1 Ransom, 200 ft. from N and E, Sec. 244, B. M. Clopton Sur.
Spudded and S.D.

Southern Oil Co.'s No. 2 Cade, 330 ft. S and 990 ft. E in Sec. 17, Blk. 19, T.P. Sur.
Drlg. 942 ft.

Texas Inland Oil Co.'s No. 1 Boax, 330 ft. from N and W of N 311 acres of S 611 acres, John Wall Sur. No. 278.
Set csg. 1,947 ft.

Texas Inland Oil Co.'s No. 2 Sellers, 640 ft. from N and 200 ft. from W, Wm. Delk Sur. No. 241.
Spudded.

LOVING COUNTY

D. C. Evans' No. 1 W. D. Johnson, 2,310 ft from N and 1,650 ft. from W, Sec. 12, Blk. 57, Twp. 1, T.&P. Sur.
Drlg. 2,029 ft.

PECOS COUNTY

Adams et al's No. 1 Schearer.
Location.

Adams et al's No. 1 Masterson.
Location.

California Oil Co.'s No. 24 Yates, 160 ft. from E line and 20 ft. from S line, Sec 34, Blk. 194, G.C.&S.F. Sur.
S.D. 1,020 ft.

Cardinal Oil Co.'s No. 17-E Tippett, 150 ft. from E line of W half and 730 ft. from N of No. 5-E, Sec. 40, Blk. 194, G.C.&S.F. Sur.
Shut down.

Gulf Prod. Co.'s No. 2 White and Baker, 330 ft. from N and E of Sec. 42, Blk. 194, G.C.&S.F. Sur.
Drlg. 230 ft.

Humble Oil & Ref. Co.'s No. 2 White & Baker, 1,320 ft. from N line and 1,320 ft. from E line, Sec. 4, Blk. 179, T.C.R.R Sur.
Drlg. 2,235 ft.

Illinois Oil Co.'s No. 3 University, 330 ft. from E line and 960 ft. from S line, Sec. 31, Blk. 24, University Land Sur.
S.D. 1,500 ft.

C. S. Messenger's No. 2 Rand Jones, 1,935 ft. from S line and 1,013 ft. from W line of Sec. 5, Blk. 9, H.&G.N. Sur.
Drlg. 1,677 ft.; flowed 15 bbls. after shot at 1,660 ft.

Pecos Prod. Co.'s No. 1 Green & Ogden, 330 ft. from S and 159 ft. from W of vacancy strip on E side of Sec. 104, T.C. Sur.
T.D. 1,344 ft.; flowed 200 bbls. in 5 min.

Tex-Mex Pet. Co.'s No. 1 Netterville, 5,610 ft. from S and 330 ft. from W of Sec. 59, Blk. 8, H.&G.N. Sur.
T.D. 2,290 ft.; ran tubing; flowing 30 bbls. a day.

Trans-Tex. Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 37, Blk. 40, Twp. 9, T.&P. Sur.
S.D. 1,168 ft.; cleaning out.

REAGAN COUNTY

E. P. Kirschner and White's No. 1 W. A White and McIntosh, 720 ft. from E and 800 ft. from N of Sec. 1,223, E.L.R.R. Sur.
S.D. 3,165 ft.

Skelly Oil Co. et al's No. 1-D H. S. Grayson, 1,980 ft. from N line and 660 ft. from W line of Sec. 33, Blk. 8, University Land Sur.
Drlg. 2,150 ft.

REEVES COUNTY

J. E. Cunningham's No. 1 Altman, 2,310 ft. from N line and 1,980 ft. from E line of Sec. 1, C. C. Wyatt Sur.
T.D. 885 ft.; moving in rotary.

Grisham & Hunter Corp.'s No. 1-A fee, 1,320 ft. from N line and 1,470 ft. from E line, Sec. 1, Blk. 50, Twp. 8, T.&P. Sur.
T.D. 5,227 ft.; cleaning out.

Hugo Freels' No. 1 B. Greenman, 330 ft. from NE line and 231 ft. from SE line of Sec. 21, Blk. 2, H.&G.N. Sur.
T.D. 3,985 ft.

RUNNELS COUNTY

Agnew and Currie's No. 1 H. E. Wade, 2,640 ft. from N line and 320 ft. from E line of Sec. 24, Domingo Diaz Sur. No. 532.
Drlg. 2,190 ft.

Hall Oil Co.'s No. 1 Brevard, 160 ft. N and W in Subdiv. 31, D. Diaz Sur.
Drlg. 1,110 ft.

Melrose Oil Co.'s No. 1 L. P. Woods, 150 ft. from NE lines and 3,475 ft. from W line of survey, Willett Holmes Sur. No. 100.
S.D. 1,429 ft.; to run csg.

R. Wells' No. 1 James, 396 from N and 320 ft. from E of James tract in Sec. 16, D. Diaz Sur.
S.D. 180 ft.

SCHLEICHER COUNTY

John M. Cooper et al's No. 1 Bert Page, 1,290 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur.
Drlg. 5,077 ft.

Humble Oil & Ref. Co.'s No. 1 Ike Honig, 2,640 ft. from N line and 2,650 ft. from E line of Sec. 38, Blk. M, G.H.&S.A. Sur.
Drlg. 3,955 ft.

STERLING COUNTY

John I. Moore's No. 1 McIntire, 660 ft. from

S and E. Sec. 35, Blk. 23, H.&T.C. Sur.
Drlg. 310 ft.

STONEWALL COUNTY

Merry Bros. and Perrini et al's No. 1 Williams, C SW of SW, Sec. 6, Blk. C, A.B. &M. Sur.
Fishing 2,045 ft.

SUTTON COUNTY

Texas & Hesselman's No. 1 Mower, 1,980 ft. from S and W of Sec. 39, Blk. 5, T.W.& N.G. Sur.
Location.

TAYLOR COUNTY

Dunnigan Bros. et al's No. 2 Hunter, 850 ft. from S and 250 ft. from W of Subdiv. No. 14, Willis Sur.
Drlg. 650 ft.

TERRELL COUNTY

W. A. Sudderth's No. 1 Phelps, 2,157 ft. from N line and 2,482 ft. from the W line of Sec. 5, Blk. 4-A, G. W. Turley Sur.
S.D. 5,635 ft.

UPTON COUNTY

Broderick & Calvert's No. 1 Homer Trust & Savings Bank, 1,980 ft. from N line, 660 ft. from W line, Sec. 22, Blk. B-42, Twp. 4s, T.&P. Sur.
Drlg. 4,815 ft.

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. Sur.
Drlg. 10,827 ft.

Perry & Breeding's No. 1 Lane, 1,650 ft. from S line and 990 ft. from E line of Sec. 36, Blk. 1, M.K.&T. Sur.
S.D. 2,203 ft.

Stanolind Oil & Gas Co.'s No. 33 Burleson, 1,650 ft. from N line, 1,650 ft. from E line, Sec. 2, Nidever Sur.
S.D. 1,959 ft.

Theabotal Oil Co.'s No. 2 J. F. Lane, 1,650 ft. from N and 990 ft. from E of Sec. 36, Blk. 1, M.K.&T. Sur.
S.D. 2,265 ft.

Williams & Williams Drlg. Co.'s No. 1 Robbins, 1,600 ft. from S and 1,900 ft. from E, Sec. 4, G.C.&S.F. Sur.
Drlg. 2,082 ft.

WARD COUNTY

Alexander's No. 1 Richter, 1,650 ft. from NW, 1,170 ft. from NE line of Sec. 27, Blk. 34, H.&T.C. Sur.
S.D. 1,700 ft.

Bradford et al's No. 1 E. R. Allen, 660 ft. from NW line and 551 ft. from NE line, Sec. 11, H.&T.C. Sur.
Shut down.

Cook Drlg. Co.'s No. 1 Wood, 330 ft. from NW and SW, Sec. 5, W. F. Stewart Sur.
Csg. set at 468 ft.

Eppenauer Drlg. Co.'s No. 1-B Combs, 423 ft. from SE and 1,826 ft. from SW, Blk. 4, J. W. Hollingsworth Sur.
S.D. 2,423 ft.; T.P. 2,408 ft.; shot and now gauging; flowed 210 bbls. in 24 hrs.

Plains Prod. Co.'s No. 1 J. J. McGregor, 660 ft. from SE line, 660 ft. from SW line, Sec. 169, Blk. 34, H.&T.C. Sur.
Set csg. 1,070 ft.

Postellio & Caprito's No. 1 Purcell, 330 ft. from NE and 990 ft. from NW, Sec. 17, Blk. 34, H.&T.C. Sur.
Rig up and S.D.

Sid Richardson's No. 4-B W. D. Johnson, 990 ft. from NE line, 330 ft. from SE line, Sec. 22, Blk. 34, H.&T.C. Sur.
T.D. 2,518 ft.; testing.

Sageland Oil Corp.'s No. 2 Pure-Bennett 1,650 ft. from NW and 2,310 ft. from SW Sec. 16, Blk. 34, H.&T.C. Sur.
Spudded and S.D.

Tex-Mex Pet. Corp. et al's No. 3 Llano-Owens, 1,650 ft. from NW line and 2,310 ft. from SW line, Sec. 16, Blk. 5, H.&T.C. Sur.
T.D. 3,036 ft.

WINKLER COUNTY

Harry Adams' No. 3 Scarborough, 990 ft from N line and 990 ft. from W line, Sec 2, Blk. 77, P.S.L. Sur.
Location.

Jeffries et al's No. 1 Brown & Altman, 2,310 ft. from S and W, Sec. 6, Blk. B-5. Location.

J. C. Maxwell's No. 1 Clapp, 1,980 ft. from N and 330 ft. from W, Sec. 37, Blk. 26, P.S.L. Sur.
Machine.

R. S. Mathews et al's No. 1 Evans, 1,320 ft from N line and 1,320 ft. from W line, Sec. 46, Blk. 73, P.S.L. Sur.
S.D. 110 ft.

Sid Richardson's No. 1 Hill, 1,980 ft. from E line, 660 ft. from S line, Sec. 13, Blk. B-11, P.S.L. Sur.
Drlg. 2,575 ft.

Sid Richardson's No. 2-B Tidal-Scarborough, 1,005 ft. from S line, 990 ft. from W line, Sec. 4, Blk. C-22, P.S.L. Sur.
Drlg. 3,005 ft.

Sid Richardson's No. 5-A Scarborough, 330 ft. from W and 190 ft. from S, Sec. 1, Blk. 22-C, P.S.L. Sur.
Machine.

Sayre Oil Co.'s No. 1 Howe, Sec. 12, Blk. 26, P.S.L. Sur.
Drlg. 2,730 ft.

Skelly Oil Co.'s No. 1 Halley, Sec. 35, Blk. B-11, P.S.L. Sur.
T.D. 3,113 ft.; T.P. 3,105 ft.; 382 bbls. in 16 hours.

Texas Panhandle Wildcats

Week Ending September 22

CARSON COUNTY

Stanolind O. & G. Co.'s No. 2 L. C. McConnell, 330 ft. from N line, 330 ft. from W line, E½ SW Sec. 187, Blk. 3, I.&G.N. Sur.
Fishing 2,065 ft.

Texas Interstate P. L. Co.'s No. 1 Burnett, C N¼ Sec. 79, Blk. 5, I.&G.N. Sur.
Drlg. 980 ft.

CHILDRESS COUNTY

Humble Oil & Ref. Co.'s No. 1 B. P. Smith, 1,327 ft. from S line and 1,327 ft. from E line of Sec. 27, H.&G.N. Sur., Blk. 9. T.D. 4,729 ft.; testing.

DALLAM COUNTY

Eben Warner's No. 1 Jarbie, 1,520 ft. from S line, 415 ft. from W line, Sec. 2, B.&B. Sur.
S.D. 3,200 ft.; may abandon.

GRAY COUNTY

Dixon Creek Oil Co.'s No. 1 Benedict, 330 ft. from S and 330 ft. from W, Sec. 114, Blk. 3, I.&G.N. Sur.
T.D. 3,270 ft.; shot and cleaning out.

Niapa Oil Corp.'s No. 1 Cole, 330 ft. from S and 330 ft. from W, Sec. 104, Blk. 3, I.&G.N. Sur.
T.D. 3,321 ft.; cleaning out.

Southwest Prod. Co.'s No. 1 T. Cobb, 1,320 ft. from S line, 990 ft. from E line, NE Sec. 134, Blk. 3, I.&G.N. Sur.
T.D. 3,370 ft.; to deepen.

Texas Co.'s No. 1-C Taylor, 1,325 ft. from N and 1,320 ft. from W, Sec. 52, Blk. B-2, H.&G.N. Sur.
Cellar.

Texwell Oil Co.'s No. 1 J. C. McConnell, 330 ft. from S line, 330 ft. from W line, SW SW Sec. 174, Blk. 3, I.&G.N. Sur.
S.D. 3,267 ft. for pipe line connection.

HUTCHINSON COUNTY

Brownie Oil Co.'s No. 1 Ware, 330 ft. from N and 330 ft. from W, Sec. 124, Blk. 4, I.&G.N. Sur.
Set csg.: T.D. 1,183 ft.

Huey et al's No. 1 Christian, 330 ft. from S and 330 ft. from W, Sec. 33, Blk. Y, A.&E. Sur.
8-in. csg. at 1,669 ft.

Phillips Pet. Co.'s No. 3 A. Yake, 7,553 ft. from N line, 330 ft. from W line, Sec. 36, H.&T.C. Sur., Blk. 47.
T.P. 2,890 ft.; T.D. 2,922 ft.; testing.

MOORE COUNTY

C. C. Christie's No. 1 Moore, Sec. 37, Blk. 45, H.&T.C. Sur.
Location.

Phillips Pet. Co.'s No. 2 J. C. Wilson, Sec. 157, Blk. T-3, T.&N.O. Sur.
Drlg. 6,412 ft.

Sunray Oil Co.'s No. 2-A Jones, 330 ft. S and W lines Sec. 164, Blk. 3-T, T.&N.O. Sur.
Drlg. 644 ft.

RANDALL COUNTY

English et al's No. 1 Oxnard.
Fishing 5,375 ft.

WHEELER COUNTY

Bowers & Carvers' No. 1 L. B. Sims, 330 ft. from N line, 330 ft. from E line of SW Sec. 60, Blk. 17, H.&G.N. Sur.
S.D. 2,166 ft.

Carver Drilling Co.'s No. 1 Rock Island, 1,600 ft. from S line, 2,310 ft. from W line, Sec. 47, Blk. 13, H.&T.C. Sur.
Cellar.

Christie-Hickman's No. 1 Walker, 330 ft. S and E of NE Sec. 49, Blk. 24, H.&G.N. Sur.
Material.

Dyke Oil Co.'s No. 1 G. W. Sitter, 330 ft. from N line, 330 ft. from E line, N½ NW Sec. 28, Blk. 24, H.&G.N. Sur.
S.D. 1,230 ft.

Ben G. Barnett's No. 1 Boren, NW cor. NE Sec. 24, Blk. 13, H.&G.N. Sur., 11 miles E and S of Shamrock.
S.D. 1,210 ft.

LeFors Pet. Corp.'s No. 1 Perkins, 330 ft. from S line, 330 ft. from W line, Sec. 54, Blk. 24, H.&G.N. Sur.
Rig up.

Myers & Kennedy's No. 1 Harvey, 660 ft. from S and E line of NW Sec. 67, Blk. 13, H.&G.N. Sur.
T.D. 2,235 ft.; to plug back.

Piney O. & G. Co.'s No. 1 Rippey, C NE Sec. 123, Blk. 23, H.&G.N. Sur.
Set csg. 2,016 ft.

Reno Oil Co.'s No. 1 Mankins, SW SE SE Sec. 54, Blk. 13, H.&G.N. Sur.
T.D. 2,216 ft.; 1,200 ft. of oil in hole
T.D. 2,216 ft.; 1,200 ft. of oil in hole.

Smith Bros.' No. 1 Williams, 330 ft. N and E, W½ SE Sec. 49, Blk. 24, H.&G.N. Sur.
Location.

Smith Bros. No. 1 A. Plummer, 330 ft. from N line, 330 ft. from E line, N½ SW Sec. 45, Blk. 24, H.&G.N. Sur.
T.D. 2,547 ft.; P.B. 2,532 ft.; flowing 45 bbls. daily.

East Central Texas Wildcats

(Continued from Page 49)

Crosby and Pulp's No. 1 M. T. Dobbs, NW cor. of east Dobbs 100-ac. tract, 4 miles E of Malakoff and S of Railroad, George Aldrick Sur.
S.D. 3,118 ft.

HOPKINS COUNTY

D. A. Hale et al's No. 1 L. M. Hall, 200 ft. from N and E lines of 70a-c. tract, 1 mile SE of Miller Gros, A. Caro Sur.
S.D. 640 ft.

HUNT COUNTY

G. S. & S. Co.'s No. 1 O. Popper.
S.D. 2,556 ft.

J. C. Hall's No. 1 Parrish, C of 100-ac. tract N. Delaney Sur., 5 miles N of Lone Oak. Derrick.

L. G. Priest's No. 1 Amelia Barnett, 1,075 ft. from W line, 330 ft. from S line of J. C. Hamer Sur.
S.D. 1,355 ft.

KAUFMAN COUNTY

W. J. Lewis et al's No. 1 D. Clark, 430 ft. from S line and 600 ft. from E line of Sur., 6½ miles NW of Elmo.
S.D. 478 ft. (corrected).

LAMAR COUNTY

Cole et al's (formerly Optometrist Oil Club) No. 1 J. M. McFaddin, 450 ft. from S and W lines of E 25-ac. tract, 10 miles NW of Paris, Joseph Dick Sur.
S.D. 2,506 ft.

LEON COUNTY

Kellough and Tucker's No. 1 G. B. Young, 330 ft. from S line and 330 ft. from W line of 100-ac. tract, 4 miles SE of Long Lake, J. M. Boone Sur.
Coring 5,230 ft.

Normangee Corp.'s (W. C. Battaile et al) No. 1 B. H. Henry, 1,850 ft. from E line and 2,700 ft. from N line of survey, Robert Rogers League, 2½ miles NE of Normangee.
Spudded and S.D.

LIMESTONE COUNTY

Peyton Bros. No. 1 Steubenrach, 370 ft., NW from SE line, 1,170 ft. SW of NE line of 346.59-ac. tract, P. Varela Sur.
T.D. 5,706 ft.; P.B. to 5,640 ft.; to retest.

Schultz' No. 1 Roy Ward, NE cor. of 73.3-ac. tract, 5 miles W of Mexia Field, Harrison York Sur.
Derrick.

V. V. Waite's No. 1 Barrow, 650 ft. from S and 950 ft. from E line of 320-ac. tract, W. G. McKenzie Sur., 3½ miles NW of Thornton.
Location.

MORRIS COUNTY

McGinnis et al's No. 1 Staggers, 800 ft from S line of survey and 150 ft. from W line of lease, J. B. Nelson Sur.
Drlg. 3,915 ft.

NACOGDOCHES COUNTY

Murray Oil Co.'s No. 1 C. B. Watkins, 150 ft. from N line and 330 ft. from NW lines of 160-ac. tract, 3 miles S of Caro, H. Y Bailey Sur.
S.D. 3,456 ft.

J. W. Rich et al's No. 1-A R. W. Haslewood, 5,450 ft. from S line and 2,300 ft. from W line of survey, 50 ft. N of No. 1, 15 miles SW of Nacogdoches, Ewing Sur.
S.D. 701 ft.

NAVARRO COUNTY

Bennett Brothers' No. 1 T. E. Stewart, 150 ft. from NE line of lease, 10 miles SW of Corsicana, Wm. R. Bowen Sur.
S.D. 1,186 ft. to test.

R. B. Codding et al's No. 1 Lela Kelt, 450 ft. from S line and center of N and S lines of lease, 3 miles NE of Chatfield, C. B. Emmons Sur.
S.D. 1,546 ft.

W. J. Keeling et al's No. 1 J. F. Rushing 484 ft. from N line and 150 ft. from W line of 184-ac. tract, 6 miles SW of Richardson, Henry Ford Sur.
Coring 2,900 ft.

McCullough et al's No. 1 C. Berry, 330 ft from SE cor. of 35-acre tract, 1 mile W of Dawson, William Moss Sur.
S.D. 625 ft.

Wheelock and Collins' No. 1 I. N. Cerf, 375 ft. from N line of lease and 1,050 ft. from W line of lease, James Smith Sur. No. 726.
Top sand 6,002 ft.; slight show from 6,007-19 ft.; D.S.T. 5,988-6,029 ft. was dry; now S.D.

RAINS COUNTY

Wadley et al's No. 1 P. F. Jones, 400 ft. out of SW cor. of 22-ac. tract, 2½ miles S of Alba, B.B.B.&C. Sur.
T.D. 4,730 ft.

Rio Oil Co.'s No. 1 Johnson, 330 ft. N and W of 39 ac. tract, R. Hitchkiss Sur., 4½ miles E of Emory.
T.D. 3,924 ft.; P.B. to 3,724 ft.; to sidetrack.

RED RIVER COUNTY

Cornell and Spear's No. 1 E. H. Thompson, 664 ft. from S and 1,062 ft. from W of NE cor. of 324-ac. tract, E. Smith Sur.
S.D. 1,072 ft.; (corrected).

RUSK COUNTY

Headwater Oil Co.'s No. 1 F. L. Gary, 375 ft. N of S line and center of E and W lines of 200-ac. tract, 8 miles E and S of Henderson, Jose A. Mora Sur.
S.D. 2,197 ft.

George Hudson et al's No. 3 Jeff Phillips, 150 ft. from N line of survey and 700 ft. from W line of 100-ac. tract, 4 miles SE of Minden, N. Villaria Sur.
Fishing 3,673 ft.

Kelly Harris' No. 1 T. W. Harris, 700 ft. from E line, 300 ft. from N line of N 80-ac. tract, 2½ miles SW of Henderson, Davis Sur.
Rig moved.

SMITH COUNTY

Deck et al's No. 1 Dendall, 330 ft. from S and W of 55-ac. tract, J. Williams Sur., 3 miles E of Van Field.
Rigging up.

Fair et al's No. 1 Rushing, 1,000 ft. SE of old hole, 1½ miles SE of Whitehouse.
Drlg. 4,285 ft.

UPSHUR COUNTY

Virgil Hodges et al's No. 1 J. M. Floyd, 330 ft. from NE cor. of 126-ac. tract, 4 miles N of Gladewater, Railroad Sur.
S.D. 3,764 ft.

Lanier and Moore's No. 1 Vaughan, 230 ft. from S line and 330 ft. from W line of 100-ac. tract, 2 miles NW of Big Sandy, P. W. Standifer Sur.
S.D. 1,042 ft.

VAN ZANDT COUNTY

Pete Corley et al's No. 1 Slaton, 150 ft. from W and 660 ft. from N lines of William Carlton Sur., 3 miles SE of Ben Wheeler.
Rig.

W. E. Brown's No. 1 Bank of Edgewood, 560 varas from SW cor. of H. M. Lead Sur., M. B. Lout Sur.
S.D. 4,100 ft.

Van Zandt Synd.'s No. 1 C. S. Coker, 150 ft. out of SW cor. 55-ac. tract, William Daniel Sur.
S.D. 1,206 ft.

Gillum and Allen et al's No. 1 A. T. Bass, 150 ft. from W line and 150 ft. from N line of 10-ac. tract, William Hart Sur.
To sidetrack drill stem.

Green and Winn's No. 1 Eaton, 330 ft. out of most westerly SW cor. of J. Wilson Sur., 2 miles SE of Martin.
Location.

Hodges & Schwartz's No. 1 McKinney, C of N and S lines and 150 ft. from W of 106-ac. tract, Wm. Daniels Sur.
S.D. 460 ft.

Martin & Evans' No. 1 Bryant, 453 ft. N of same operators' dry hole, Nacogdoches County School Land Sur.
Derrick.

Miller et al's No. 1 J. M. Palmer, 150 ft. from S and E lines of 69-ac. tract, Nacogdoches County School Land Sur.
S.D. 610 ft.

Peden and Olson's No. 1 J. M. Palmer, 300 S of No. 3 and 140 ft. from W line of tract, J. Goodman Sur.
S.D. 1,285 ft.

M. Rouch et al's No. 1 Bearden & Palmer, 150 ft. out of SE cor. of 61-ac. tract, Nacogdoches C.S.L.
Drlg. 875 ft.

WOOD COUNTY

Alex Snyder et al's No. 1 T. Holmes, 200 ft. out of NE cor. of 122-ac. tract, 1½ miles SE of Hawkins, A. N. McKnight Sur. 399.
S.D. 4,830 ft.

Southwest Texas Wildcats

(Continued from Page 46)

Montevista Oil Co.'s No. 1 W. I. Pope, 1,000 ft. from W line and 1,750 ft. from S line of J. D. Rains Sur., in L. Rains Sur. Abd. 2,715 ft.

F. Meyers' No. 1 Mooney, 260 ft. from road, 330 ft. from middle of SE cor. of 102-ac. tract, Seale Sur.
Location.

Stanley Smith's No. 1 J. C. Copeland, about 4 miles SW of Lockhart and beyond the Mebana Estate.
Setting up machinery.

DUVAL COUNTY

Grimes et al's No. 1 Fitzimmons, 330 ft. from S and E lines of Sur. 291.
Spudded and S.D. for wtr.

G. Stewart Smith-Jefferson Oil Co.'s No. 1 Garcia, 990 ft. south of N line, 330 ft. W of E line, Blk. 3, Jose Marcelo Hinojosa grant.
Drlg. 4,453 ft.

O'Byrne & Jennings' No. 1 Benavides, 3,734 ft. from S cor. and 330 ft. from W line at right angles, Sur 355.
S.D. for wtr. 2,399 ft.

Tom Graham and Texon Royalty Co.'s No. 2 Parr, 2,050 ft. from N line, 2,550 ft. from E line, Sur. 185.
T.D. 2,099 ft.; standing.

Texas Co.'s No. 1 G. W. Sutherland, making location in Sur. 503.
Location.

EDWARDS COUNTY

Will Olhausen's No. 1-B Turney, 660 ft. from W line, 1,622 ft. from N line of Sec. 176 C.C.S.D.&R.G.N.G. Sur.
Cmtd. csg. at 407 ft.

H. H. Sides' No. 1 Turney, C.C.S.D.&R.G.N.G. Sur. No. 164, 1,320 ft. N line and W line of survey.
S.D. 1,012 ft.

FALLS COUNTY

Dorris et al's No. 3 C. E. Greater, G. Basque Sur.
No report.

FAYETTE COUNTY

Harry Adams' No. 1 Holman, 1,650 ft. N line, 330 ft. from E line, Sec. 22, C.C.S.D. R.G.&N.G. Sur.
Wtr. sand 335 ft.; drlg. 370 ft.

Magnolia Pet. Co.'s No. 1 Steinman Almansure Sur., 330 ft. N line and E line of most southerly cor. of 90-ac. tract.
Top Jackson 1,315 ft.; Frio sand 2,180-92 ft.; S.W.; drlg. 3,200 ft.

Richardson et al's No. 1 Anderson, 656 ft. E of cen. of W line of lease, James Winn Sur., one-quarter mile NW Roundtop.
Sand 2,695-97 ft., gas and S.W.; T.D. 2,825 ft.; S.D.

J. P. White's No. 1 Wing, 200 ft. from N line, 4,100 ft. from E line of 1,200-acre tract in B. Osborne Sur.
Abd. 750 ft.

FRIO COUNTY

Amerada Pet. Co.'s No. 2 Halff & Oppenheimer, begin at most easterly N cor. of John H. Gibson Sur. No. 16, thence SE along NE line of Sur. 2,100 ft., thence SW at right angles 300 ft. (4 mi. SW of Pearsall).
Showed oil from 8,973-75 ft.

GILLESPIE COUNTY

Ed L. Nixon's No. 3 Lindig, 12,694 ft. S line, 1,335 ft. W line, Maria Josepha Guerra Sur. No. 41, or 6 ft. S of No. 1.
S.D. 465 ft.

GOLIAD COUNTY

Oceanic Pet. Co.'s No. 1 Fromme, 1,500 ft S line, 1,200 ft. W line of 82-ac. tract in P. D. Dexter Sur., 10 miles N of Goliad.
T.D. 2,685 ft.; to set csg.

Jack Porter's No. 1 Mrs. N. Meyers, NW cor. of 404.54-ac. tract, 1¾ miles SW of Huisache.
Location.

GONZALES COUNTY

Weinert et al's No. 1 A. Kaiiles, 3,340 ft. S line and same N of river and 150 ft. E line of tract, Ira Nash Sur.
Drlg. 2,730 ft.

GUADALUPE COUNTY

J. M. Clark's No. 1 Roughgarden, J. O. Blair Sur., 800 ft. SE line, 150 ft. NE line of tract.
Abd. 2,417 ft.

Diamond Half Oil Co.'s No. 1 Wm. Maiserhofer, 506 ft. from E line and 1,500 ft. from N line of 51.55-ac. tract in L. H. Peters Sur.
T.D. 470 ft.; set 10-in. csg. 40 ft.

L. E. Trout's No. 1 McKee, Green DeWitt Sur., SW Darst Creek.
S.D. 1,080 ft.

HIDALGO COUNTY

Davis & Harrison's No. 1 Luis George, 300 ft. from S and 700 ft. from E lines of Tract 12, Porcion 41, Ancient Jurisdiction of Reynosa.
T.D. 4,125 ft.; sand 4,109-35 ft.; prepare to deepen.

Rogers et al's No. 1 Fairbanks, 7 miles S of McAllen.
T.D. 210 ft.; S.D.

Union Sulphur Co.'s No. 2 American Rio Grande L. & I. Co., 400 ft. from S and

E lines of tract, Blk. 84, North Capisallo district.
Drlg. 5,860 ft.

JIM HOGG COUNTY

John D. Norwood's No. 1 C. W. Hellen, 330 ft. N and W lines, Sur. 48.
Drlg. 400 ft.
Sun Oil Co.'s No. 2 Martinez, 2,640 ft. from N line, 600 ft. from W line of Sur. 221. Abc. 3,011 ft.

JIM WELLS COUNTY

John F. Camp's No. 1 B. W. Owens, 900 ft. from NE cor. of Sec. 11, 2 mi. E of Alfred.
T.D. 500 ft.; waiting on rig.
Plymouth Oil Co.'s No. 1 Cuero Cattle Co., 330 ft. from S and W lines of H.T.&B. Sur. No. 7, 2¼ miles W from Alfred
Rig standing.
Smith & Storey's No. 1 Martha E. Ellworth, 330 ft. N and W from SE cor. of W half of W 426 acres of Stanley Welch Sur.
Drlg. 2,610 ft.; gas sand 2,328-50 ft.

KARNES COUNTY

California Oil Co.'s No. 1 J. C. Tom, Jr., 466 ft. each way from NW cor. of 6,525-ac. tract, Maria-De Jesus Y. Barbo grant.
Rigging up.
R. E. Cevenaux et al's No. 1 Tom Campbell, 330 ft. S and E cor. of farm and survey, J. R. Backer Sur., 13¼ miles SW of Falls City.
T.D. 1,254 ft.

KENDALL COUNTY

Walter Bradley's No. 1 Werner, John F Torrey Sur.
T.D. 862 ft.; set 8¼-in. csg. at 580 ft.; top Trinity 576 ft.
W. R. Shanklin's No. 1 Seidenstick, 1,835 ft. from most easterly E line, 100 ft. from most northerly S line of Antonio Rodeguez Chacon Sur. 257.
T.D. 400 ft.; S.D. for csg.

KERR COUNTY

Edmiston Oil Corp.'s No. 1 Whitworth, 1,140 ft. from S line and 1,333 ft. from E line of Sec. 1,439 of the H.E.&W.T. Sur.
T.D. 675 ft.; S.D.
Herbert Oil Co.'s No. 1 J. D. Witt, 13,200 ft. from N line, 1,200 ft. from W line of Sec. 1,923, Hamilton Sur.
Set 15½-in. csg. 110 ft., 12½-in. csg. 962 ft.; T.D. 1,896 ft.; S.D.
Jeff Love and Eastland Oil Co.'s No. 5-E Jeff Love, 1,500 ft. SE of No. 1 and 1,580 ft. from SE cor. and 300 ft. from N line of Sec. 1,591.
Cmtd. csg. at 3,001 ft.
J. F. Morrissey et al's No. 1 F. A. Karga, 1,400 ft. from S line and 600 ft. from E line of survey, Sec. 1, B.S.&F. Sur.
Drlg. 1,017 ft.; S.O. 963-85 ft.
G. F. Schreiner's No. 3 Jeff Love, 1,444 ft. from W line, 1,194 ft. from S line of Sur., 660 ft. N and 100 ft. E of Evans & Gants' No. 1 Love, Martinez Sur. 1,594.
Location.

KLEBERG COUNTY

J. S. Brown's No. 1 Antone Dietz, Sec. 7. Hotch estate.
S.D. 3,138 ft.
H. Clark et al's No. 1 Kivlin, Sec. 39.
S.D. 2,350 ft.
Ryalls & Bartlett's No. 1 Flats, Sec. 40.
S.D. 985 ft.

LaSALLE COUNTY

Dupree Fountain's No. 1 R. J. Kroschewsky, 1,000 ft. from N line, 150 ft. from E line, in A. G. Starty Sur.
Rig up and S.D.
Standard Oil Co. of D. C.'s No. 1 J. M. Martin, 300 ft. S and W lines of 643-ac. farm in Sur. 683.
Drlg. 1,270 ft.; cmtd. 8⅛-in. csg. at 44 ft.

LEE COUNTY

Jas. E. Pederson's No. 1 Turner, David Hudson Sur.
Drlg. 6,330 ft.; (corrected).
H. A. Sherlack's No. 1 Otto, 736 ft. from NW line, 1,310 ft. from NE line of 57.5-ac. tract in Thomas Morrow Sur.
Abd. 1,497 ft.

LIVE OAK COUNTY

J. H. Durbin's No. 3 Marbach, 1,850 ft. from W line and 450 ft. from S line of 428-ac. tract in Stephen Hays Sur.
Spudded.
W. H. Helmerich's No. 1 Cartwright, 660 ft. from W line, 330 ft. from S line of Lot 16, Seale, Morris & Sexie Sur.
Location.
Henderson Coquat's No. 1 Jacob, 660 ft. from N and E lines of Tract 37, Charles E. Trapp Subd., of Everett & Henry Sur.
Showed hole full of oil in 10 min. from 806 ft.; coring 840 ft.
Marine Corp.'s No. 1 Ross Booth, 400 ft. from SE line and SW line of 392.7-ac. tract in M. B. Kivlin Sur., E of Lucas Field.
Abd. 5,505 ft.
Unit Oil Co.'s No. 2 Terrell, 1 mile NE of No. 1.
Set surface csg. and S.D.

MAVERICK COUNTY

Stroman & Wright's No. 2 Debona, 440 varas E line, 280 varas S line of Sur. No. 1
T.D. 853 ft.; S.D.

McMULLEN COUNTY

Boling's No. 1 Brown, 1,500-ac., NW Crowther field.
Location. Contract calls for 1,000 ft. test.
Brasada Oil Co.'s No. 1 Nueces Land & Livestock Prop., in C SE Sec. 111 and about 4 miles W of the Cooper & Frates No. 1 Hagist.
Drlg. 1,602 ft.
Choate & Noble's No. 1 Miles, 330 ft. from S line, 2,750 ft. from E line of 1,250-ac. tract in Stephens Sur.
Location.
Cooper & Frates' No. 1 Hagist, 330 ft. out of the NE cor. Sec. 125, and just W of No. 3 Hagist of Lefevre & Spice.
Pettus sand 2,190-2,200 ft.; S.W.; W.O.
C. C. Shumway's No. 3 Hagist.
Rig up.
Charles Wuest's No. 1 Fisher, Roderick O'Boyle Sur.
Moving in.
Hy Young's No. 1 Callihan, James Gardner Sur., NW cor. Blk. 4, Sec. 6.
Derrick.

MILAM COUNTY

McNeill Pet. Co.'s No. 1 W. C. Butler, 450 ft. NW line, 1,050 ft. NE line, Butler 100-ac. tract, James Lewis Sur.
Drlg. 2,115 ft.

MEDINA COUNTY

Scoggins & Sanders' No. 1 L. W. Burrell, 150 ft. from E line, 1,750 ft. from N line of M. E. Gage Sur. 395.
Drlg. 1,715 ft.

MENARD COUNTY

Duffey-Chedster's No. 1 Mears Wilkinson, 660 ft. S line and 660 ft. W line of T.&N.O. Sur., Sec. 23, Abstract 756.
T.D. 100 ft.; S.D.

NUECES COUNTY

Buff Pet. Co.'s No. 1 Vincent Bluntzer, 660 ft. N line, 660 ft. E line of Share 7 of Bluntzer Subd.
Rigging.
Clymore Oil Co.'s No. 1 Palo Alto Farms, 2,640 ft. from N and E lines of Sec. 182 of Bishop Subd.
Derrick.
Stanolind O. & G. Co.'s No. 2 Stratton, 1,980 ft. from N line, 660 ft. from W line of NE Sec. 13, DeAbajo grant.
Fishing 6,904 ft.
Texon Royalty Co.'s No. 1 Robert Driscoll, 330 ft. from N line, 5,697 ft. from W line of 880-ac. Driscoll tract and E of Simmons & Perry tract.
Rig up.
Texon Royalty Co.'s No. 1 W. W. Walton, 330 ft. from N and W lines of 166 2/3-ac. tract in Lot No. 5.
Running csg.; T.D. 4,775 ft.

REAL COUNTY

H. J. Heartwell et al's No. 2 L. J. Haby, 694 ft. from W line and 2,153 ft. from S line of A.B.&M. Sur. No. 175.
Prepare to drill ahead; T.D. 2,837 ft.

SAN PATRICIO COUNTY

Allied Minerals' No. 1-A Ramsey, 466 ft. E, 220 ft. N of SW cor. of the North B. Giddings Sur. on a 1,000-ac. tract.
Cmtd. csg. 940 ft.; fishing 940 ft.
Lonnie Glasscock's No. 1 M. F. Timmons, 330 ft. out of SE cor. of Blk. 27, San Patricio townsite.
Rigging up.
Gum Hollow Oil Co.'s No. 1 J. G. Willacy, 2 mi. W Portland.
Location.

STARR COUNTY

Cooper & Andrews' No. 1 J. M. Martinez, SW cor. Sec. 135.
T.D. 300 ft.
C. R. Borah's No. 1 A. Guerra, San Jose grant, 330 ft. from N and 150 ft. from E line of Sec. 6 (NE part of county).
Drlg. 1,392 ft.
C. L. Smith et al's No. 1 J. M. Longfellow, 330 ft. out of NW cor. of Sur. No. 281.
Drlg. water well.
H. C. Harter's No. 1 Sanches et al, 530 ft. from N line and 450 ft. from W line of Share 72, Porcion 72.
Shale 260 ft.; S.D.
R. M. Mitchell's No. 1 Kelsey Bass, 150 ft. from N line, 1,150 ft. from E line, Share 5, Por. 76.
Location.
R. M. Mitchell's No. 1 Seabury, 4,000 ft. from N line, 150 ft. from E line of Share 5, Por. 75, Camargo.
S.D. 210 ft.
Smith & Weston's No. 1 M. M. Garcia, Blk. 9, Sur. 908.
Location.
Sun Oil Co.'s No. 1 Gonzales & Clark, 600 ft. out of NW cor. of NE Sec. 372, T.T. Ry. Sur. No. A-773.
Rig up.
United Prod. Co.'s No. 1 Guerra, 36, 170 ft. from NE line, 1,521 ft. from NW line of Porcion 55.
Derrick.
E. L. Younkin's No. 1 Kelsey Bass, 330 ft from S line, 7 ft. from W line of Blk. 19 in Porcion 87.
T.D. 1,570 ft.; prepare to resume drilling.

TRAVIS COUNTY

Humble O. & R. Co.'s No. 1 C. J. Peterson, J. P. Kemp Sur., 330 ft. NE line, 990 ft. SE line of 125-ac. tract.
(Corrected); cmtd. 6⅝-in. csg. at 664 ft.; I.P. 15 bbls. per day, estimated; T.D. 740 ft.
Humble O. & R. Co.'s No. 1-B Buck Christian, 990 ft. from SE line, 330 ft. from SW line of 127-ac. tract in Kemp Sur.
T.D. 350 ft.; drlg.
Marts & Beavens' No. 1 Emil Bloomquist, 150 ft. from NW line and SW line of 99⅛-ac. tract in Peter C. Harrison Sur.
S.D. 1,300 ft.

UVALDE COUNTY

Humble Oil & Ref. Co.'s No. 1 R. L. Anderson, 7,450 ft. SW of NE line and 9,100 ft. SE of NW line of J. J. Guerra Sur (3 mi. NE of Uvalde).
Drlg. 3,975 ft.
T. T. Word's No. 1-B Truelove, 45 ft. E of No. 1-A.
Drlg. 990 ft.

WEBB COUNTY

W. P. Morris' No. 1 A. M. Bruni, 994 ft. NW line, 943 ft. NE line, Blk. 65, G. M. Brown Subd., Saltea pasture, in J. V. Borrego grant.
Show of gas 1,305-35 ft.; T.D. 1,335 ft.
Fidelity Exploration Co.'s No. 1 Soldivar, 1,300 ft. from E line, 2,600 ft. from N line of Sur. 657.
T.D. 2,350 ft.; S.D.
Wolcott et al's No. 1 D. Green, 1,865 ft. from W line and 1,553 ft. from N line of Sur. No. 283.
T.D. 450 ft.; S.D.

WILLACY COUNTY

W. W. Silk's No. 1 Stillman, Lot 18, Blk. 30, Santa Rosa Subd., Share 44.
No report.

WILLIAMSON COUNTY

Mann & Ross et al's No. 1 F. Ross, John Bevil Sur. 56.
Prepare to run csg. at 710 ft.
J. A. Morgan Russell's No. 1 Nelson Est., 150 ft. S line and 1,115 ft. E line of J. L. Justin No. 2 Sur., 5 miles S of Georgetown.
Drlg. 520 ft.

WILSON COUNTY

Ben M. Burger, trustee's No. 1 Burney, 310 ft. from W line, 150 ft. from S line of 14-ac. tract in Arocha grant, one-half mi. S Floresville.
Spudded and S.D.
Ben M. Burger, trustee's No. 1 J. A. Darling, 300 ft. from E line, 473 ft. from S line of 26½-ac. tract in Arocha grant.
T.D. 680 ft.; moving in rig to deepen old well.
Ray Oil Co.'s No. 1 J. M. McDaniel, 1,700 ft. from SW line, 350 ft. from NW line of 193.5-ac. tract in Concepcion Bostelle Sur. No. 9.
Rig up and S.D.
J. C. Yancey's No. 1 Lyssy, 300 ft. from SE and SW lines of lease in D. J. Holt Sur.
Drlg. 1,505 ft.

ZAPATA COUNTY

C. C. Crews' No. 1 M. D. Slator, 2,111 ft. from SW line, 1,980 ft. from SE line of Blk. 1, Mission Oil Co. Subd. of Slator ranch, Borrego grant.
T.D. 1,739 ft.; std.
Danvers & Harrison's No. 1 M. J. Vela, 686 ft. NE line and 300 ft. NW line, or 3,140 ft. E line and 330 ft. N line of Por. 39. Blk. 7, Bela Subd.
S.D. 1,632 ft.
F. G. Delaney et al's No. 1 Bolpe et al 330 ft. from N cor. of Blk. 1, Share 1, of Delaney Subd., Portion 32.
No report.
J. W. Edwards' No. 1 D. A. McAskill, 150 ft. from N and E lines of Blk. 62, J. W. Edwards Subd. of 4,669.6-ac. tract out of Corralits Subd. of the J. V. Borrego grant.
Rig up.
Merle Gunby's No. 3 Alice D. Haynes, 2,440 ft. SW line, 200 ft. SE line, Blk. 27, Haynes Subd., Comitas and Villa grants.
Abd. 2,110 ft.
H. & M. Drlg. Co.'s No. 1 Slater, 614 ft from SW line, 150 ft. from SE line, Blk. 65, J. B. Barrego grant.
Spudded and S.D.
W. V. & W. Oil Co.'s No. 1 Cuellar.
T.D. 1,125 ft.; moving in heavier rig.
Howell Muckelroy's No. 1 Filemn Flores, 77 ft. from SE line on NE line Lot 2, Blk. 30, Por. 37.
Derrick.
Joe Palmer's No. 11 S. Vela, 330 ft. from NE and SE lines of Blk. 170, Share 4 of L. Grillo grant (3 mi. E of Redondo Pool).
S.D. 1,019 ft.
E. P. Wells' No. 1 S. E. Garcia, 150 ft. from N and E lines of 200-ac. tract in Pedernal grant.
Moving in rig.

Southwest Texas Proven

Week Ending September 29

NORTH DALE POOL—BASTROP COUNTY

Cole Pet. Co.'s No. 1 Rubin Gage, NE cor. of tract, 150 ft. each way from corner.
Location.
Joe E. Mills' No. 1 Mrs. W. J. Cardwell, 900 ft. from SE line, 1,200 ft. from SW line of tract, J. A. Navarro Sur.
Rigging up.
Joe E. Mills et al's No. 1 Wm. Litton, 620 ft. from SE line, 850 ft. from SW line of 320-ac. tract in Navarro Sur.
Drlg. 1,450 ft.
Ogden & Reed's No. 1 Ed Pendergrass, 300 ft. from most northerly NW line, 600 ft. from most northerly SW line, A. J. Dawson Sur.
S.D. 1,782 ft.
Watt L. Saunders' No. 1 Harris, 1,100 ft from SW line, 2,330 ft. from NW line of John Maximilian Sur. No. 22.
Top Austin 3,140 ft.; T.D. 3,338 ft.; no report.

CAESAR—BEE COUNTY

R. A. David's No. 1 Baptist Church, center of 3-ac. church lot, F. Lewis Sur.
Derrick.
Falvey et al's No. 1 Gardner, 330 ft. out of NE cor. of Gardner tract.
T.D. 3,064 ft.; cmtd. csg.

NORTH PETTUS FIELD—BEE, GOLIAD AND KARNES COUNTIES

Bryce McCandless' No. 1 Beeville Natl Bank, 330 ft. out of NW cor. of 142-ac. tract in G. B. Meyers Sur.
Derrick standing.
Houston Oil Co.'s No. 5-B Neuhaus, B.S.&F. Sur., 660 ft. S of No. 3-B.
Coring sand 3,644 ft.
Nichols, Hindman et al's No. 1 Weldon & Lackey, 1,694 ft. NW line, 1,607 ft. SW line, 40-ac. tract, J. Gomez Sur. (Goliad County).
Drlg. 3,400 ft.; (corrected).
Magnolia Pet. Co.'s No. 3 Porter, 660 ft. W of No. 2 and 330 ft. N of S line of lease.
T.D. 3,677 ft.; I.P. 100 bbls. per day; comp.
Magnolia Pet. Co.'s No. 5 Scarborough, 660 ft. S of No. 2 and 330 ft. from the W line of lease.
Drlg. 3,500 ft.
Sun Oil Co.'s No. 3 Scarborough, 660 ft. S of No. 1, 330 ft. from E line of lease.
Drlg. 1,300 ft.
United Prod. Co.'s No. 46 Ray, 330 ft. E line of tract and equidistant offset Houston Oil Co.'s No. 3-B Neuhaus, W. J. Porter Sur.
T.D. 4,060 ft.; P.B. to 3,646 ft. to set csg. at 3,676 ft.
H. H. Weinert et al's No. 3 Grady Smith.
Location.

TULETA—BEE COUNTY

Blanco Oil Co.'s No. 1 Martinson, 330 ft. N line and W line of N 100 acres, SE Sec. 9, Ragsley Subd., Uranga grant.
Drlg. 340 ft.
A. A. Buchanan's No. 1 Perez, 330 ft. N line, 330 ft. E line SE Sec. 9, Uranga grant.
T.D. 3,930 ft.; comp. as gas well.
Dirks Bros.' No. 4 Robinson, 990 ft. from N line, 330 ft. from E line of 80-ac. tract S of discovery well.
Rig up.
Dirks Bros.' No. 2 Skinner, 660 ft. S of No. 1 and 330 ft. from E line of Tract 10.
Elev. 324 ft.; top sand 3,930 ft.; T.D. 1,957 ft.; cmtd. csg.
E. M. Jones' No. 3 Robinson, SE cor. of tract, Uranga grant.
Drlg. 2,700 ft.
E. M. Jones' No. 4 Robinson, 990 ft. S line, 330 ft. E line of SW Sec. 5, Ragsley Subd., Uranga grant.
T.D. 3,930 ft.; I.P. 125 bbls. per day; comp.
W. M. Jones' No. 1 Skinner & Harris, 330 ft. from N and W lines of E 80-ac. of NW of Sec. 10 Ragsley Subd. of Uranga grant.
Location.
Heyser, Heard & Jones' No. 1 Rapp, Uranga grant, W offset McKay's No. 1 Rapp.
Derrick.
Walton & Heard's No. 2 Rapp, 330 ft. from S and E lines of SW SE Sec. 5, Ragsley Subd. in Uranga grant.
T.D. 3,905 ft.; I.P. 150 bbls. per day.
Wrightsman Oil Co.'s No. 1 Unzicker, 330 ft. from S and E lines of quarter Sec. 6, Ragsley Subd., Uranga grant.
Location.
Texas Co.'s No. 3 Carruth, 1,024 ft. from W line, 410 ft. from S line of 667-ac. tract, F. Rolon Sur.
Drlg. 500 ft.

VON ORMY—BEXAR COUNTY

W. L. Umburn's No. 1 Bilhartz, in SW cor. of tract, offsetting Strumberg well, F. Rolen Sur.
Drlg. 1,200 ft.

DRISCOLL—DUVAL COUNTY

Continental Oil Co.'s No. 3-A Clara Driscoll, 500 ft. N, 2,000 ft. E of SW cor. Sec. 33.
Drlg. 2,815 ft.; broken shale.

GOVERNMENT WELLS POOL—DUVAL COUNTY

Bridwell Oil Co.'s No. 3 Hahl, 825 ft. from E line, 330 ft. from S line of Blk. 28, Sur. 250.
Fishing 2,365 ft.
Al Buchanan's No. 4 D.C.R.C., 1,650 ft. from N line, 1,910 ft. from E line of Sur. 206.
Set 7-in. csg. at 1,489 ft.
Chiquita Oil Co.'s No. 2 Richardson, 150 ft. from W line, 250 ft. from N line, Blk. 1, Sur. 3.
Abd. 3,500 ft.
Edgington & Murray's No. 1 Winch & Henne, 330 ft. from N and E lines of Blk. 15 in Sur. No. 250.
Sand 2,362-69 ft.; set 7-in. at 2,362 ft.; T.D. 2,369 ft.
Gov. Wells Oil Co.'s No. 3 State, 330 ft. from S line, 1,650 ft. from W line of N half NW Sur. 360.
Sand 2,190-2,235 ft.; set 7-in. at 2,190 ft.; W.O.C.; T.D. 2,235 ft.; I.P. 150 bbls. per day; comp.
K. F. Hasselman's No. 3 Moody, 220 ft. from W line, 150 ft. from S line of S half SW of Sur. No. 60.
Rig up.
Highland Oil Co.'s No. 1 C. W. Hahl, 330 ft. from N and W lines of 40-ac. tract. Sur. 62.
Location.
Highland Oil Co.'s No. 1 W. P. Runnels, 330 ft. from N and W lines of SE NW of Sur. 62.
T.D. 1,010 ft.; drlg.
Humble Oil & Ref. Co.'s No. 41 Paul White, 2,310 ft. from S line, 660 ft. from W line of Sur. 58.
T.D. 2,311 ft.; I.P. 14 bbls. per hr.; comp.
Humble Oil & Ref. Co.'s No. 42 Paul White, 990 ft. from S line, 660 ft. from W line of Sur. 58.
Sand 2,267-76 ft.; T.D. 2,279 ft.
Humble O. & R. Co.'s No. 43 Paul White, 2,970 ft. from S line, 330 ft. from W line of Sur. 58.
Location.
Humble O. & R. Co.'s No. 44 Paul White, 1,650 ft. from S line, 330 ft. from W line of Sur. 58.
Location.
Magnolia Pet. Co.'s No. 11 D.C.R.C., 330 ft. from N line, 990 ft. from E line of SE NE.
T.D. 2,235 ft.; I.P. 10 bbls. per hr.; ¼-in. choke.
Magnolia's No. 12 Duval County Ranch Co., 990 ft. from N and E lines, Sur. 59.
Drlg. 2,110 ft.
Magnolia's No. 9 Riley, 330 ft. from S line, 1,650 ft. from W line, Sur. No. 4.
T.D. 310 ft.; set 10-in. csg. at 43 ft.
Magnolia Pet. Co.'s No. 35 D.C.R.C., 330 ft. from N and W lines of SW Sur. 209.
Sand 2,302-90 ft.; set 7-in. at 2,302 ft.; coring 2,311 ft.
Magnolia Pet. Co.'s No. 6 Hahl-Sutherland, 330 ft. from N line, 1,650 ft. from W line of Sur. 61.
Comp.; T.D. 2,297 ft.; I.P. 7½ bbls. per hr.; ¼-in. choke.
Magnolia Pet. Co.'s No. 8 J. O. Wilson, 330 ft. from N line, 825 ft. from W line of Sur. 134.
Rig up.
Nessly & Brown's No. 1 W. P. Runnels, 330 ft. from N line, 350 ft. from W line of E half of NW of Sur. 62.
T.D. 2,348 ft.; I.P. 200 bbls. per day; comp.
Parr Oil Co.'s No. 4 D.C.R.C., 330 ft. from N and E lines of W half NE of Sur. 365.
T.D. 2,315 ft.; put on pump.
Reid and McKay's No. 11 Lundell, 1,320 ft. from W line, 660 ft. from N line of 8⅓ NW of Sur. No. 60.
Rig up.

Reynosa Oil Corp.'s No. 1 Duval County Ranch Co., 330 ft. from S and W lines of Sur. 362.
Standing 1,200 ft.
Smith & Story's No. 9 Lundell, 330 ft. from N and E lines of SE of Sur. 48.
T.D. 2,312 ft.; I.P. 100 bbls. per day on pump; comp.
Smith & Story's No. 10 Lundell, 330 ft. from S and E lines of SE NE of Sur. 48. Rigging up.
Sun Oil Co.'s No. 4 Norton, 330 ft. from N and W lines of Blk. 19 in Sur. No. 250.
Sand 2,307-15 ft.; set 7-in. csg. at 2,295 ft.; T.D. 2,341 ft.; I.P. 10 bbls. per day on pump; comp.
Sun Oil Co.'s No. 68 Weiderkehr, 330 ft. from S and W lines of NE NW of Sur. No. 53.
Abd. 3,476 ft.
Sun Oil Co.'s No. 71 Weiderkehr, 330 ft. from N line, 990 ft. from E line of Sur. 2. T.D. 2,268 ft.; I.P. 6 bbls. first hr.; ¾-in. choke.
Sun Oil Co.'s No. 72 Weiderkehr, making location in Sur. No. 2.
Location.
Texas Co.'s No. 1 Tom Graham, 5,065 ft. N 45 deg. E and 1,130 ft. S 25 deg. E, W cor. Geo. Reynolds Sur. 572.
Drlg. 4,844 ft.
Texas Co.'s No. 1 G. W. Sutherland.
Making location in Sur. 503.
Trapshooter Reilly's No. 1-B C. W. Hahl, 150 ft. from E line, 200 ft. from S line of Blk. 32, Sur. 250.
No report.
E. F. Wilson's No. 1-A A. Broadbeck, 330 ft. from N and W lines of SW SE Sec. 16.
Derrick.

LUCAS—LIVE OAK COUNTY

Lion Oil & Ref. Co.'s No. 2 McNeil, J. Curry Sur., 660 ft. N of No. 1.
Rig up.
Houston Oil Co.'s No. 27 Cartwright, 1,000 ft. NW of No. 10 on 11,389-ac. tract in Choichado Sur.
Cmtd. csg.; T.D. 3,500 ft.

FORDYCE—HIDALGO COUNTY

Alamo Drlg. Co.'s No. 1 Ed Sullivan, 150 ft. from N and W lines of 3.25-ac. tract, in Tract 283-284, Por. 39, 1,700 ft. SE of No. 1 Lawrence.
Derrick.
Alamo Drlg. Co.'s No. 1 E. Flores, 150 ft. from N and W lines of Tract 266, Por. 38.
Location.
Alamo Drlg. Co.'s No. 2 E. Flores, 150 ft. from W line, 225 ft. from S line of Tract 266, Por. 38, J. of Reynosa.
Location.
C. C. Bishop's No. 1 F. B. Guerra, Tract 254, Por. 39, NE of discovery well.
Rig.
Blocker & Lucky's No. 1 F. B. Guerra, 330 ft. from S and W lines of W½ of E 20-ac., Share 254, Por. 39.
Derrick.
Jack Clements' No. 1 Felipe Farias, 150 ft. from N and E lines of Share 272, Por. 39, Reynosa.
Location.
Danvers-Harrison & Davis' No. 1 Dr. Austin, center of E 7.2-ac. of S 14.4-ac. in Share 282, Por. 39.
Location.
M. Porter Evans' No. 1 John M. Lawrence, 330 ft. from N and W lines of W 19.04-ac., Share 274, Por. 39.
Location.
Heep Oil Co.'s No. 1 T. de Flores, Tract 284, Por. 39, 1,500 ft. SE of discovery well.
Derrick.
Heep Oil Co.'s No. 1 Seabury, George & Taylor, 330 ft. from S and E lines of SE 25.9-ac. of Tract 254, Por. 38.
Location.
Moncrief & Showers' No. 1 F. B. Guerra, 330 ft. from N and E lines of NE of W 40 acres of S 80 acres of W½ of Share 254, Por. 39, J. of Reynosa.
Location.
Ed Sullivan's No. 1 E. B. Guerra, center of NE 10.77 acres of SW 40.7 acres of Tract 254, Por. 39.
Location.
Van Dresar et al's No. 1 W. R. Jackson, 330 ft. from N and W lines of 92-ac. tract, Por. 38-39-40, Blk. 278.
Location.
Otto Woods' No. 2 John Lawrence, 330 ft. from N and E lines of W 40 acres of Tract 274, Por. 39.
Location.
Otto Woods' No. 3 John Lawrence, 330 ft. from S and W lines of W 40 acres of Tract 274, Por. 39.
Location.
Otto Woods' No. 4 John Lawrence, 330 ft. from E line, 250 ft. from S line of W 40 acres, Tract 274, Por. 39.
Location.

JACOB POOL—McMULLEN COUNTY

Benson et al's No. 9 John Stiz, midway between No. 1 and No. 6, Blk. 40, Sur. 7.
T.D. 1,600 ft.; P.B. to 704 ft.; W.O.C.
E. W. Hopkins' No. 1 H. L. Lark, 160 ft. from N and W lines of W half of Blk. 30, Scrugham Sur.
Spudded.
Kennon's No. 3 Lark, 660 ft. from N line, 330 ft. from E line of E½ of Blk. 15, Scrugham Sur.
T.D. 1,067 ft.; P.B. to 1,061 ft.; to pump.
C. R. Kennon's No. 4 H. L. Lark, 175 ft. from S line, 175 ft. from W line of E 20-ac. of Blk. 15 of Scrugham Sur.
Location.
C. R. Kennon's No. 5 H. L. Lark, 175 ft. from S and E lines of E half of Blk. 15 of Scrugham Sur.
Location.
R. P. Lightfoot's No. 1 Lark, 160 ft. E line and 300 ft. S line, 33-ac. tract, Blk. 134, E. W. B. Schrugham Sur.
Drlg. plug 1,011 ft.
Loma Oil Co.'s No. 29-A Jacobs, 660 ft. W of No. 28-A, in Sur. No. 7.
Comp.; T.D. 1,030 ft.; no gauge.
Siemp & Hockaday's No. 1 Lark, 1,320 ft. N of No. 3 Longhorn, in Scrugham Sur.
T.D. 1,033 ft.; 250 ft. of oil in hole, prepare to pump.
Ormsby & Stewart's No. 4 Jacob, one-half mi. S of No. 3.
S.D. 150 ft.
A. P. Pierce's No. 1 Lark, 150 ft. out of NW cor. Blk. 41, Schrugham Sur.
T.D. 1,060 ft.; S.D.
Reynosa Oil Corp.'s No. 1 Jacob, 678 ft. N, 220 ft. W of SW cor. of W. H. Jacob Sur. 7 in Sur. 9.
Abd. 1,080 ft.
Stewart-Smith & Storey's No. 2 L. Jacobs John Fadden Sur. No. 8, 660 ft. E of No. 1
Cmtd. csg. 860 ft.; to D.D.
Texlo Oil Co.'s No. 2 L. Jacob, 660 ft. N of No. 1 Benham Sur.
Location.
R. P. Whitefield's No. 1-A Jacob, 1,500 ft. from W line, 1,200 ft. from S line of SW of Sur. 17.
Drlg. 200 ft.

SINTON—SAN PATRICIO COUNTY

Heep Oil Corp.'s No. 2 R. Welder, 466 ft. from S line, 2,000 ft. from E line of Adeline Welder tract in Victor Loupsey Sur.
Derrick.
Heep Oil Corp.'s No. 4 R. Welder, 466 ft. from S and W lines, 300-ac. tract, Victor Loupsey Sur.
Drlg. 6,020 ft.
Petrol Corp.'s No. 1 R. H. Welder, 467 ft. from S and E lines of 300-ac. tract.
T.D. 6,028 ft.; P.B. to 5,200 ft.; T.D. 6,000 ft.; showing some oil and gas.

LOS OLMOS—STARR COUNTY

J. P. Kennedy's No. 8 Kelsey-Bass, 200 ft. SE of No. 7 Kelsey-Bass in Blk. 7 of Porcions 75, 76 and 77 in Los Olmos Field.
Location.

CUEVITAS POOL—STARR COUNTY

Sun Oil Co.'s No. 5-C M. Guerra & Son 1,320 ft. NE of No. 4-C La Sacatosa grant
Location.

AGUA DULCE—NUECES COUNTY

Clymore Prod.'s No. 3 Ingram, 660 ft. from E and S lines, Sec. 6, Blk. 6, Peters Subd
Derrick down.
Clymore Prod. Co.'s No. 2-D Ingram, 660 ft. from S and W lines of Lot No. 7, Sec. 6, Peters Subd. No. 2.
Location.
Clymore Prod. Co.'s No. 1-C Ollie Purl, 660 ft. N and E lines of Lot No. 2, Sec. 7 Peters Subd. No. 2.
Moving in rig.

SARITA—NUECES COUNTY

South Mineral Corp.'s No. 2 Ocher, 2,569 ft from S line, 417 ft. from E line of 95-ac tract in Sur. 418, Sec. 5.
T.D. 4,869 ft.; running electrical core tool.
Southern Mineral Corp.'s No. 3 Ocher, 3,159 ft. N of S line and 417 ft. from line of Ocher 202.52-ac. tract in Sec. 8.
Location.
Southern Mineral Corp.'s No. 4 Ocher, 1,320 ft. S line and 417 ft. E line of Ocher 202.52-ac. tract in Sec. 8.
Location.

WEST COLE POOL—WEBB COUNTY

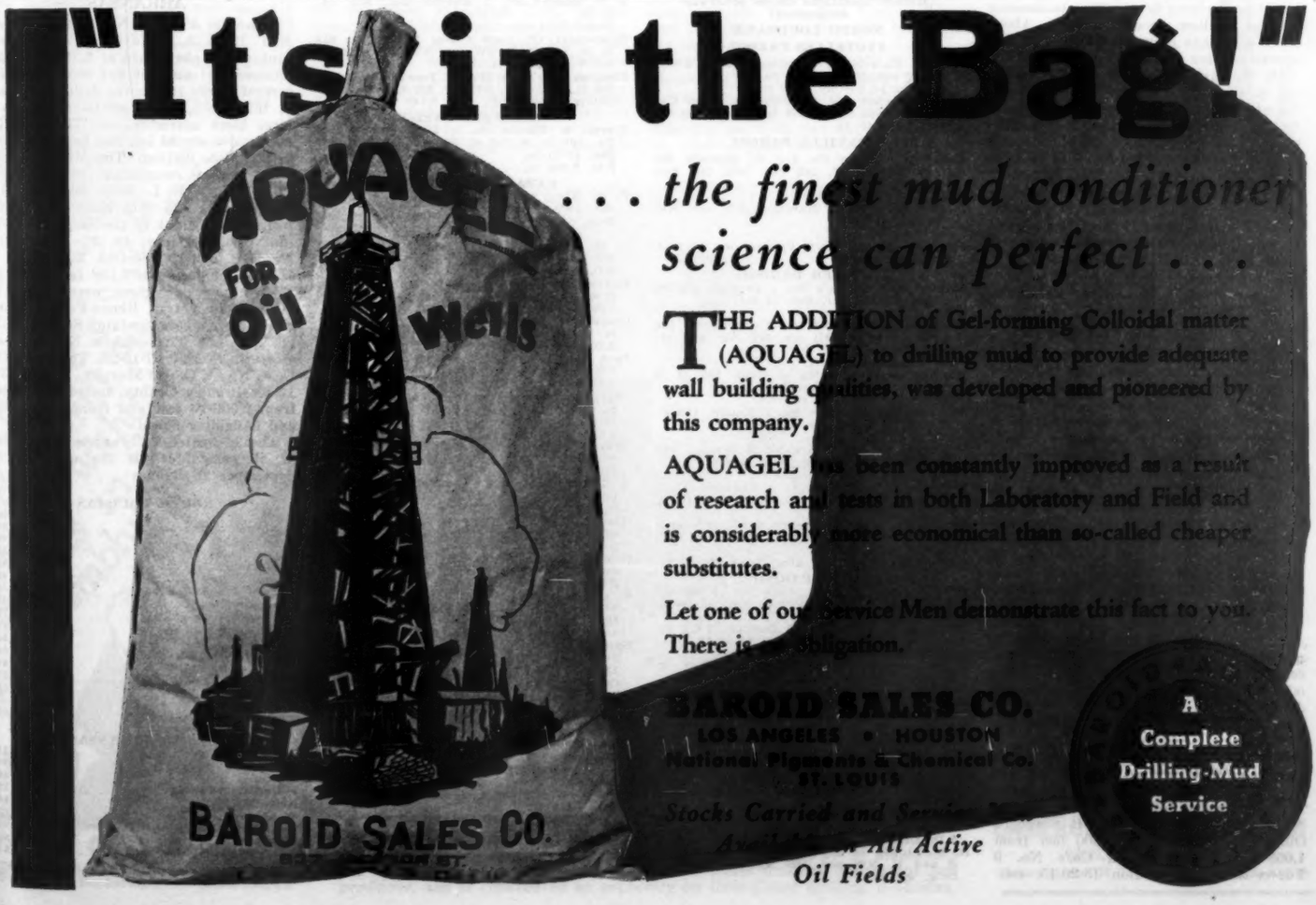
American Liberty Oil Co.'s No. 1-B Bruni estate, 418 ft. from NE line, 260 ft. from NW line of Blk. 13.
Drlg. 255 ft.
American Liberty Oil Co.'s No. 1 Bruni estate, 418 ft. from NE line, 260 ft. from NW line of Blk. 48, Sur. 5, Adams Subd. in Arispe grant.
T.D. 3,425 ft.; I.P. 36 bbls. per hr.; 5/16-in. choke; comp.
Herman Brown's No. 2 Bruni Est., 418 ft. from NE line, 260 ft. from SE line of Blk. 8, Foltz Subd., Sur. 5, Arispe grant.
T.D. 310 ft.; drlg. 10-in. csg. at 100 ft.
Cole Pet. Co.'s No. 36 Benavides, Sur. No 1, Callaghan homestead tract.
Coring 3,455 ft.
O. W. Killam's No. 27 Bruni, 1,209 ft. from SW line, 2,246 ft. from SE line of Sur. No. 6, Arispe Grant Sur.
Drlg. 1,505 ft.
Kalmore's No. 1-B Bruni, 330 ft. to W line, 418 ft. SW line, Blk. 33, Sur. 5, Adams Subd., Mariano Arispe grant.
Sand 2,287-2,305 ft.; 6⅝-in. csg. 2,297 ft.
O. W. Killam's No. 25 Bruni (formerly No. 1 Kulmor), Sur. 6, Adams Subd., Mariano Arispe grant.
T.D. 3,424 ft.; to P.B. and sidetrack.
South Texas Oil Co.'s No. 13 Laurel, 300 ft. from W line, 150 ft. from S line, Blk. 4, Sur. 270.
Skidding derrick.
Sun Oil Co.'s No. 1 Bruni Est., 418 ft. NE line, 260 ft. SE line of Blk. 4, Sur. 5, Arispe grant.
Derrick.
United Prod. Corp.'s No. 5 Brennan Benavides, Mariano Arispe grant; common cor. Blks. 332, 333, 348, 349.
Drlg. 2,455 ft.

TAYLOR—WILLIAMSON COUNTY

Jackson et al's No. 1 Bozarth 95.8-ac. tract, 2,000 ft. from NW line, 3,500 ft. from NE line, S. Miller Sur.
S.D. 800 ft.
G. L. Rowsey, trustee,'s No. 1 W. Heap, 1,100 ft. from SE line, Bushy Creek, 200 ft. from SW line of 92.3-ac. tract in H. White Sur.
T.D. 905 ft.; showing oil in Serpentine and preparing to set csg. and make a test
R. Wilder's No. 1 W. I. Cain, 200 ft. from N line, 160 ft. from E line of S half of Cain 100-ac. tract in S. Miller Sur.
Cmtd. csg.; T.D. 1,960 ft.

LAS ESCOBAS—ZAPATA COUNTY

A. J. Mickle's No. 1 Treveno, 150 ft. from S line, 300 ft. from E line of Blk. 14, Sur. 411.
T.D. 1,635 ft.; testing sand 1,629-35 ft.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North Louisiana-Arkansas Territory Active, and Mississippi Manifesting New Signs of Life

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Oct. 1.—The North Louisiana, Arkansas and Mississippi division experienced an unusually active week, reporting 18 completions, a majority of which were oil or gas wells in proven areas. In addition, 14 new operations were staked and a number of new wildcat blocks are being assembled. The North Louisiana district maintains its lead, both in completions and wildcatting, but the Mississippi district is showing new signs of life and South Arkansas is still getting a good play.

NORTH LOUISIANA

The parishes in the northwestern part of Louisiana, located on the Sabine uplift, continue to report the most wildcatting activities. In Webster Parish, about 8 miles south of the Shongaloo gas area, M. J. Kissick is assembling a block of 3,000 acres centering around Section 11-21-9. The contract calls for a 3,200-foot test to begin by November 1. East of the town of Doyline in the same parish a few miles from the Bossier-Webster line, Howard Pries of Lake Charles is assembling 3,500 acres centering around Sections 14 and 15-18-10. There is no definite contract depth, but it is understood the test will drill to the Woodbine horizon.

Northeast of the Bellevue shallow field in Bossier Parish and just across the line in Webster Parish, Dickinson and others will drill a series of test wells with a spudding machine in an effort to uncover another shallow producing area. About 3,000 acres has been assembled centering around Section 6-19-10.

On the eastern flank of the Sabine uplift in Bienville Parish, T. L. James & Co. of Ruston, La., has derrick up on its No. 1 Harrison in Section 2-16-6. The block of 11,000 acres on which the test is located was assembled by C. E. Laskey, formerly geologist for the Shell Petroleum Corp. The contract calls for a 3,000-foot hole which should contact the Blossom sand in that area and which has always shown a good thick sand body in all previous wells drilled in that vicinity.

A 7,000-acre block is reported to have been assembled in Red River Parish by Reid Clark of Shreveport.

To Make 3,000-Foot Test

A tentative location has been made in Section 5-14-11 for a 3,000-foot test. This is in the vicinity of former shallow producing oil and gas wells which produced from the Tokio but have been abandoned for several years. In the northern part of Bossier Parish, L. M. Moffitt and the Magnolia Petroleum Co. have made location in Section 2-21-12 for a third test on an 18,000-acre block, the two previous tests having been dry holes. The new wildcat is about 2 miles southwest of the first two wells. With the exception of E. L. Foster's No. 1 Youngblood, Section 9-11-14, an old well drilling deeper from 1,502 feet in DeSoto Parish, all of the remaining new locations staked in this district during the last week were in proven or semiproven territory. In the central part of the State, Catahoula Parish, T. R. Hincy has spudded in and is drilling at 100 feet on his No. 1 Louisiana Central Lumber Co. in Section 32-9-6e.

The week's completions in the North Louisiana district consisted of six gas wells, three oil wells and two dry holes. The gas wells follow: Caddo Parish, Shoreline Oil Corp.'s No. 1-B Standard Oil, Section 12-21-16, 150,000 feet from 1,058 feet; Simplex Oil Co.'s No. 9 Youree-Randolph, Section 13-20-15, estimated 1,000,000 feet of gas from 1,840 feet, plugged back from old total depth of 2,328 feet; East Carroll Parish, United Gas Public Service Co.'s No. 1 Giddens, Section 12-19-10e, 25,000,000 feet from 2,339 feet; Ouachita Parish, Carbons Consolidated's No. 9 Guthrie, Section 49-20-4e, 4,000,000 feet of gas with 680 pounds rock pressure from 2,145 feet and Hope Production Co.'s No. 4 Cole, Section 7-19-4e, 4,500,000 feet of gas and the same rock pressure from 2,155 feet; Union Parish, Nemours Corp.'s No. 1 Haile, Section 14-21-3e, 2,500,000 feet of gas and 990 pounds pressure from 2,195 feet.

All From Shallow Chalk Rock

The three oil wells were reported from the shallow chalk rock Converse Field in Sabine Parish. Graham & Dalton's No. 1 Clyde Burkett, Section 16-9-13, is pumping 5 bbls. daily from 1,993 feet. In Section 9-9-13, H. M. Harrell's No. 1 G. I. Paul is a 75-bbl. pumper from 1,975 feet, and Steen Drilling Co.'s No. 1-B A. J. Burkett is pumping 85 bbls. from 1,995 feet. All of the wells are making some salt water. In Rapides Parish, Evars & Collingsworth's No. 1 Hickman-Simmons Lumber Co., Section 40-4-1e, was abandoned as dry at 2,130 feet. The well, originally started as a 4,000-foot test, has been shut down at the abandoned depth since the early part of this year. On the eastern flank of the Zwolle Field, Sabine Parish, the New Deal Oil Co.'s No. 1 Sabine State Bank, Section 28-8-11, had a show of oil, but was abandoned at 2,621 feet.

C. M. Cope and others' No. 1 Thomas, Section 34-13-8, Red River Parish, reports a show of oil from 1,614 feet and 8¼-inch casing has been set with packer to test. The drill bit was stopped in chalk rock and the well logs the top of Arkadelphia at 1,420 feet, top of Nacatoch at 1,480 feet, with the chalk contacted at 1,610 feet. E. T. Oakes' No. 1 Bryant, Section 30-13-15, a deep test on the western edge of De Soto Parish, bailed dry with a show of gas from 5,408 feet and arrangements are being made to deepen. None of the other wildcats in this district were on test during the past week.

MISSISSIPPI

Two wildcats in as many counties were reported abandoned as dry holes during the past week in this district. The Clarke County Oil & Gas Co.'s No. 1 Kirkland, Section 10-2n-16e, was abandoned in Eutaw sand at 4,002 feet. In Lamar County, Hix & Germany's No. 1 Newman Lumber Co., Section 21-4n-15w, was completed in the Wilcox at 3,520 feet. The Jackson Field in Hinds and Rankin Counties adds two gassers. In the former area, Alexander & Weaver's No. 1 Mayes & Gordon, Section 36-6n-1e, had an estimated initial flow of 15,000,000 feet of dry gas from 2,431 feet, and on the east side of Pearl River in Rankin County, Fred W. Hemslee and others' No. 1 G.M.&N. Railway, Section 36-6n-1e, gauged practically the same initial flow from 2,435 feet.

The United Gas Public Service Co. is preparing to drill its second test in Greene County. Location has been made for No. 1 Greene County School Land in Section 16-1n-5w. A recent test drilled by this company in that area was abandoned as dry below 7,000 feet. In Bolivar County, White & Jones is rigging up to drill a wildcat on a large block of acreage. Reports from Grenada County in North Mississippi state that Fred E. West is assembling a block south and southwest of the town of Grenada, and that another block is being assembled by this operator in another part of the same county. There is no infirmation at this writing as to the contract depth on these operations, but it is reported that the Boliver County test will be to 5,000 feet.

ARKANSAS

Benedum & Trees' No. 1 Bodcaw, Section 19-16-23, Lafayette County, was junked and abandoned at 3,804 feet. An unsuccessful attempt has been made for several weeks to recover drill stem stuck at this depth. The test is located on a large block assembled by Wadley & Irwin, and a second location has been made in the same section. The Miller County Field had one completion, Texarkana Oil Corp.'s No. 3 E. L. Beck, Section 33-15-26, pumping 125 bbls. daily from 2,927 feet. On the flank of the Stephens Field, in Nevada County, O. F. Whittaker's No. 1-B Guttry, Section 2-15-20, is a 15-bbl. pumper from 2,138 feet.

Two new operations were staked in Miller County area, Rhone-Ford & Goodwin's No. 1 Frost estate, Section 8-15-26, and Lee Timberlake's No. 1 Frost estate in Section 27-15-26. The Seton Oil Co.'s No. 1 C. H. Murphy, Section 34-15-10, Bradley County, tested salt water from 2,006-16 feet and from 3,085-3,115 and is drilling ahead.

The estimated daily gross production of all companies for the week ending September 28 follows:

NORTH LOUISIANA

	Bbls.
Bellevue	365
Caddo light	4,425
Caddo heavy	1,535
Converse	1,825
Cotton Valley	490
DeSoto and Red River	1,345
Elm Grove	420
Haynesville	2,755
Holly	175
Homer	2,650
Pleasant Hill	205
Sarepta-Carterville	640
Urania	2,175
Zwolle	2,865
Total	22,900

SOUTH ARKANSAS

Champagnolle	1,120
El Dorado	2,400
Lisbon	360
Miller County	1,590
Nevada	850
Smackover light	2,225
Smackover heavy	19,450
Stephens	630
Urbana	2,520
Total	31,345

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Bell Oil Co.'s No. 1 Woodley, 330 ft. S and W NE cor. NW Sec. 11-3n-5e.
Washing to bottom 1,700 ft.

Haas & Stokes' No. 1 Lindstrum Land Co., 690 ft. S, 980 ft. E, NW cor. Sec. 34-1n-6e.
Hole abd. 40 ft.

BIENVILLE PARISH

Benedum & Trees' No. 1 J. W. Sprawls, 660 ft. S, 330 ft. W, NE cor. NW NE Sec. 17-16-6.
Set 12½-in. 292 ft.

T. L. James' No. 1 Harrison, SW cor. NW NW Sec. 2-16-6.
Derrick.

Saline Drlg. Co.'s No. 1 Pardee, Sec. 27-14-6.
Set 10-in. 142 ft.

BOSSIER PARISH

Bossier O. & G. Co.'s No. 1 Sherrill, 300 ft. S and W, NE cor. Sec. 13-9-12.
S.D.; W.O. 2,261 ft.

Dickinson & Pearce's No. 1 Buckelew, 400 ft. N, 55 ft. W, SE cor. NE NE Sec. 16-19-11.
S.W. and abd. 445 ft.

Howard & Baird's No. 1 Gold, 150 ft. S and E, NW cor. Sec. 36-20-13.
S.D. for water 1,126 ft.

McKinney & Stewart's No. 1 Nattin, 470 ft. W, 620 ft. S, NE cor. Sec. 32-22-14.
S.D. 2,973 ft.

Producers O. & G. Co.'s No. 1 Weiner, 660 ft. N and W, SE cor. Sec. 7-17-11.
Washing to bottom 3,934 ft.

Triangle Drlg. Co.'s No. 2 Skannell Unit, 990 ft. N, 660 ft. W, SE cor. Sec. 14-17-12.
Coring 2,897 ft.

United Gas Pub. Service Co.'s No. 1 Herold Unit, 50 ft. S and W, NE cor. SW SE Sec. 13-17-12.
Set 13⅜-in. 220 ft.; drlg. 1,408 ft.

CADDO PARISH

Ark.-La.-Tex. O. & G. Co.'s No. 1 Simon, 330 ft. N and E, SW cor. Sec. 15-20-16.
S.D. 2,010 ft.

W. T. Bell et al's No. 1 Bostick, 1,320 ft. E, 660 ft. N, SW cor. Sec. 12-22-16.
S.D. for water, 2,540 ft.

S. Bendor's No. 1 Starr, 150 ft. N, 195 ft. E, SW cor. SW Sec. 26-20-16.
W.O.S.R. 2,253 ft.

Burkett O. & G. Co.'s No. 1 Lindholm, 400 ft. S and E, NW cor. NE SE Sec. 15-17-14.
S.D. 1,046 ft., repairing rig.

Capitol O. & G. Co.'s No. 1 Noel Est., 300 ft. S and E, NW cor. NE Sec. 12-20-16.
S.D. 450 ft.

O. L. Hickman's No. 1 fee, 1,046 ft. S, 1,700 ft. E, NW cor. Sec. 36-17-15.
Rigging up.

A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. SE Sec. 4-14-16.
S.D. 2,128 ft.

H. E. Phillip et al's No. 1 Surrey, 330 ft. S and E, NW cor. NE NE Sec. 2-20-16.
Drlg. 520 ft.

J. T. Reese's No. 1 Murray Est., Sec. 28-21-15.
W.O.S.R. 1,652 ft.

Shreveport Oil Corp.'s No. 1 Muslow, 412 ft. N, 560 ft. E, SW cor. NW Sec. 4-20-15.
Set 7-in. 2,174 ft.

Simplex Oil Co.'s No. 9 Youree-Randolph, 660 ft. S and W, NE cor. SE Sec. 13-20-15.
Comp. 1,000,000 ft. gas, 1,840 ft.

CALDWELL PARISH

Terrell & Price's No. 1 La. Central Lbr. Co., 200 ft. N, 200 ft. W, SE cor. NW NE Sec. 18-11-3e.
S.D. 3,485 ft.

CATAHOULA PARISH

T. R. Hincy's No. 1 La. Central Lbr. Co., Sec. 32-9-6e.
Drlg. 100 ft.

DE SOTO PARISH

L. H. Alderson's No. 1 Peek, SE cor. NW NE Sec. 25-11-13.
S.D. for wtr. 3,030 ft.

Bayou Pierre Oil Co.'s No. 1 B. Y. Wemple, C SE NE SW Sec. 14-12-11.
S.D.; repairing rig, 1,265 ft.

Century O. & Drlg. Co.'s No. 1 Morton, 300 ft. N and E SW cor. SE NE Sec. 27-11-14.
S.D. for wtr., 1,493 ft.

Jack Clarke's No. 1 Moore, 330 ft. S and W NE cor. NW Sec. 1-13-15.
S.D. 1,675 ft.

Dempsey & Manziel's No. 1 Thigpen, 375 ft. S, 330 ft. W, NE cor. SW NE Sec. 33-13-13.
S.D. for wtr. 1,610 ft.

DeSoto Pet. Co.'s No. 1 B. Y. Wemple, C S½ SE NE SW Sec. 14-12-11.
Drlg. 535 ft.

E. L. Foster's No. 1 Youngblood, Sec. 9-11-14.
O.W.D.D. from 1,502 ft.

Hester et al's No. 1 Alston, 330 ft. S and W of center of Sec. 11-11-16.
S.D. 2,100 ft.

George Le Grande's No. 1 Vance, 180 ft. N and W SE cor. SW Sec. 34-12-16.
Rigged up and S.D.

W. K. Williams' No. 1 Wemple, 600 ft. N, 330 ft. W, SE cor. Sec. 15-12-11.
Drlg. 2,407 ft.

EAST CARROLL PARISH

United Gas Public Service Co.'s No. 1 Giddens, 659 ft. W, 1,349 ft. S, NE cor. Sec. 12-19-10e.
Comp. 2,500,000 ft. gas, 2,339 ft.

LA SALLE PARISH

A. D. Hudson et al's No. 1 Urania, 600 ft. W, 150 ft. N, SE cor. NE SW Sec. 7-10-2e.
Drlg. 1,100 ft.

F. A. Trichelio's No. 1 Urania, Sec. 3-9-1e.
Rigging up.

MOREHOUSE PARISH

Zeiger & Bacon's No. 1 Crossett, 400 ft. N, 300 ft. W, SE cor. Sec. 41-23-6e.
T.A. 3,111 ft.

NATCHITOCHES PARISH

Clyde Crichton's No. 1 Friedman Est., 406 ft. N, 426 ft. E, SW cor. Sec. 52-7-6.
S.D. for wtr., 1,088 ft.

(Continued on Page 83)

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Among Gulf Coast Drilling Contractors

Alamo Drilling Co. is spudding a well for Means & McGehee in the new Fordyce Field in Hidalgo County. Location is on a 3.21-acre tract embraced in Tracts 283 and 284, Porcions 38, 39, and 40, about 1,000 feet from the discovery well. This will undoubtedly be the second hole bottomed in the sand in the field, barring drilling difficulties. If a well is made on this location, Alamo Drilling Co. will have eight or nine additional locations to drill for the same operators in this field. Company also has one drilling below 7,000 feet for Amerada Petroleum Corp. in the Stratton Ridge Field, and one rig spudding for C. B. Bunte, Inc., in the Eureka Heights area on the outskirts of Houston.

C. & R. G. Drilling Co. is waiting on steel derrick to rig up for a second deep test for the Gillock Petroleum Corp. in the Dickinson area, Galveston County. Location will be 870 feet due south of the original well drilled for this operator by the same drilling company. The C. & R. G. also has one rig drilling below 6,300 feet for the Gillock Petroleum Co. about 6 miles from Alvin, being Frank Truska's No. 1.

Smith & McDannald have four rigs running for Superior Oil Co. in the Bosco, La., Field; one rig for the Stanolind Oil & Gas Co. in the Greta Field; one for the Tide Water and Texas Seaboard Oil Companies in the Cuyuga Field; one for the Pure Oil Co. in the Louise Field, and one for themselves on their own property in the Livingston field.

Cron & Gracy have three rigs running for the Shell Petroleum Corp. in the Iowa, La., Field; and one rig running for Texas Co. in the Manvel Field. The company has just finished a 6,000-foot test for Texas Co. in Victoria County.

Steen Drilling Co. has just completed another producer on its own properties in the Converse, La., Field. The company also has one rig drilling below 2,500 feet on a wildcat test on its own acreage in Calhoun County, near Port Lavaca. A contract well for the Sun Oil Co. in Ector County will be completed in the next several days.

Bud Coyle has one rig running for the Republic Production Co. in the Arriola Field, Jefferson County. He has temporarily shut down on a deep hole for the Federal Petroleum Corp. at Starks, La.

Edwards Drilling Co. is drilling ahead at 5,300 feet for Pure Oil Co. on a deep test in the Dickinson area, Galveston County, Texas. The same contractors are coring at 8,300 feet on a well at Church Point, La., for Woodley Petroleum Co. and others. A third well is being drilled in East Texas for the Humble Oil & Refining Co.

W. E. Carlton, vice president and field superintendent of the C. & C. Drilling Co., suffered severe injuries in an automobile accident last week when struck by a hit and run driver near El Campo. His car was turned over and he was not discovered until an hour after the accident. Reports from the hospital are favorable for recovery. C. & C. Drilling Co. is preparing to run oil string on a well for the Gem Oil Co. at Livingston; and has set surface casing on a well for Ralph Johnson at Goodrich, Polk County.

Showers & Moncrief, oil operators and drilling contractors, are moving a rig into the Fordyce Field, Hidalgo County, to drill their own No. 1 Guerra.

Turnbull and Irwin have contract to dig a wildcat well for the Devonian Oil Co. of Tulsa, in Victoria County. Location is in the Peter Teal League, 9,000 feet from the north line, 466 feet from the east line.

Jeff Hooper completed No. 1 Cox & Hooper, Coleto Creek Field, Victoria County, as a gasser early last week. Tubing pressure is 1,250 pounds. It is probable that gas from this well will be used for other drilling operations in the field.

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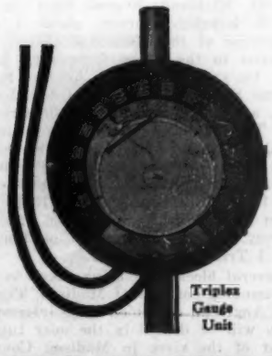

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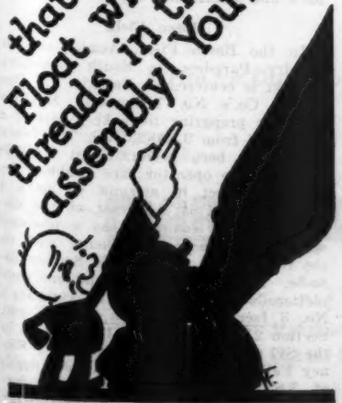

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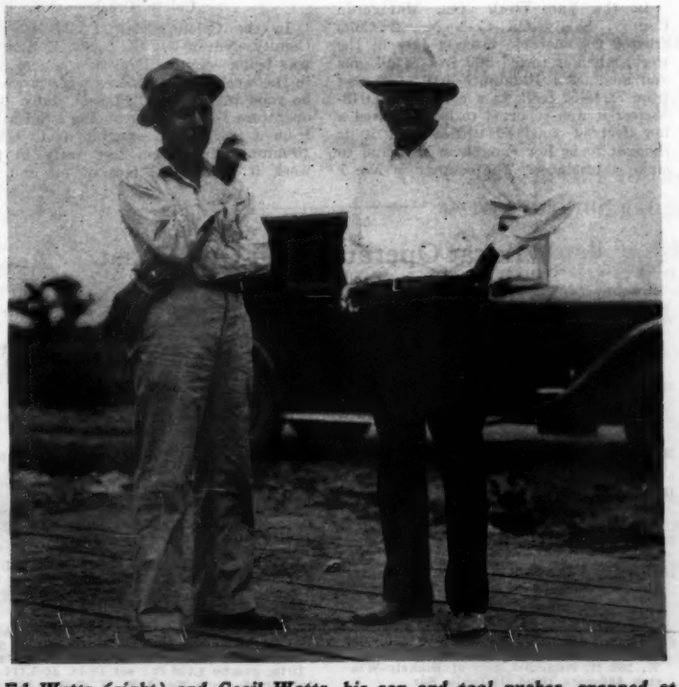

Ed Watts (right) and Cecil Watts, his son and tool pusher, snapped at West Columbia where one of Mr. Watts' rigs has recently completed a well for the Sterling Oil & Refining Co. Mr. Watts, who is associated with the latter company, is a pioneer Gulf Coast drilling contractor and producer, and is considered an authority on Gulf Coast drilling problems

Activity Is Spreading in the New Kittrell Field; First Setback in Houston County District

By F. L. SINGLETON
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Oct. 1.—The Kittrell Field in the extreme south part of Houston County, opened three weeks ago, got its first setback when H. L. Hunt's No. 1 Ford, one-half mile northeast of Boone Brothers' No. 1 Trinity State Bank, discovery well, failed to develop production from the Carrizo formation after coring below 2,206 feet. At this depth it is more than 200 feet lower than the discovery well which is producing from a total depth of 2,036 feet, and has the appearance of making the first dry hole in the field. However, it is reported the operators will carry the test through the Wilcox and make a thorough test of this formation. The last core taken was from 2,186 to 2,206 feet and the operators recovered 6 feet of sand which appeared to be water sand with no taste of salt.

Due east of the discovery well, Boone Brothers' No. 1 Texas Long Leaf Lumber Co., in the Charles McEllis Survey No. A-382, is scheduled to be completed during the week. Late Saturday it was drilling below 1,860 feet and was expected to start coring for the sand within a few hours. The outcome will give some idea as to what direction the field is to extend. Offsetting the discovery to the north, Humble Oil & Refining Co.'s No. 1 Shaw is drilling below 1,755 feet in shale and should be in the sand early in the week. Same company's No. 1 Texas Long Leaf Lumber Co., a north offset to Boone's No. 1 Texas Long Leaf, is drilling below 500 feet. Over the line in Walker County two tests were getting under way. Lawrence & Flannery's No. 1 Texas Long Leaf Lumber Co. is waiting on a water well. It is southeast of the discovery well in the Mary Milsap Survey.

Leasing Activity

East Texas Refining Co., which has been a heavy buyer of acreage, has cemented surface casing on its No. 1 Chizum, in the Mrs. F. Willis Survey, about 1 mile southwest of the discovery. The company leased part of the south half of the Stokes heirs tract in the J. Callahan Survey during the week. In the same survey, Lion Oil & Refining Co. is moving in material for a test on the Stokes heirs 52.75-acre tract purchased during the week. The company also purchased the south 25 acres of McMannen and Spears' 73.8-acre tract in the L. Powell Survey, about 2 miles northwest of the discovery. Woodley Petroleum Co. of Shreveport was reported to have purchased a half interest in the E. O. Kirkland 40-acre tract in the J. S. Ethridge Survey, about 1 mile southeast of the discovery, also a half interest in the Texas Long Leaf Lumber Co.'s 82-acre tract in the S. P. Glenn Survey, due north of the discovery, and a half interest in 40 acres of the Texas Long Leaf Lumber Co. tract in the L. Collard Survey, 2 miles southeast of the discovery in Walker County. Texas Co. is reported to have purchased the 170.6-acre tract of Mrs. A. R. Howell in the north corner of the F. Perez Survey, 3 miles due north of Boone's No. 1 Trinity State Bank.

Several blocks are being taken in the surrounding counties of Madison, Trinity and Angelina, on which some interesting tests will be drilled in the near future. West of the river in Madison County, Hall Edwards has made two locations on the block he assembled for Sunray Oil Co. about two years ago. The block consists of about 12,000 acres in the southeast corner of the county. The two locations are to be drilled on the Eastham Prison farm lands. Near the town of Pennington, on the Trinity-Houston County line, Gem Oil Co. and Johnson Brothers are reported to have taken a block of approximately 5,000 acres and have agreed to start a test by the first of December. H. L. Hunt is also reported to have purchased about 1,500 acres near the vicinity of the above block. Texas Co. is reported to have blocked about 4,000 acres in the southwestern part of Trinity County, and to have agreed to drill a well. In the same part of Trinity County, N. E. Tanner has taken a block of 6,500 acres centering around the northwest part of the J. Walker Survey. In Angelina County Texas Co. is reported to have taken about 3,000 acres of checkerboarded commercial leases south of the town of Diboll and around the town of Burke. Around the town of Apple Springs, in Trinity County, Moore and others of Fort Worth have blocked about 5,000 acres and have contracted to drill a 5,300-foot test.

By orders from the Railroad Commission the discovery well, Boone Brothers' No. 1 State Bank, has been limited to 150 bbls. per day. A special hearing on the field has been set for October 8, at which time rules and regulations for the field will be set. The well has been flowing steadily since discovery and has been flowing 30 bbls. per hour through three-eighths inch tubing choke with tubing pressure 190 pounds and casing pressure 750 pounds. The operators are building derrick for their No. 1 Rock Creek Lumber Co. and Texas Long Leaf Lumber Co. in the Keilmann Survey about 3 miles southwest of the discovery in Walker County.

Van Vleck Area

In the Van Vleck area, Matagorda County, Skelly Oil Co.'s No. 2 Cobb created considerable interest late in the week, when it tested 300 feet of oil, gas and mud on a 10-minute drill stem test from 7,048-58 feet. In a core from 7,048-58 feet it was reported to have showed a few feet of good saturation and it is thought to be low enough in the sand to make a producer. The company's No. 1 Cobb, completed in April for a distillate producer, topped the sand at 7,026 feet, which places No. 2 Cobb about 22 feet lower than the first well. It will probably be given another test and if it does not develop commercial production it will be drilled deeper. It is 1,600 feet northwest of No. 1 in Marie Cummings Survey.

Refugio County

In the Tomoconnor Field, Refugio County, Quintana Petroleum Co.'s No. 2 Thomas O'Connor, which opened a new sand in the field last week, has been completed for an initial production of 35 bbls. per hour through a three-quarters inch tubing choke from sand at 5,796-5,808 feet, the total depth. Tubing pressure gauged 1,175 pounds and the casing pressure 1,700 pounds. Seven-inch casing was set at 5,759 feet.

The well is 450 feet northwest of the operator's No. 1 Thomas O'Connor, completed in June for an estimated 1,000-bbl. well from a total depth of 5,575 feet. Oil sand in this test was cored from 5,569-75 feet, and after producing for a short time the well began making considerable water, which gave the operators much trouble in trying to keep the well on production. Since the discovery of the new sand in No. 2-A O'Connor, the operators have moved machinery back to the discovery well, and it is coring below 5,665 feet in search of the new sand. Both producers are on a 4,000-acre block of which Humble Oil & Refining Co. owns half interest. The field is 8 miles northeast of the town of Refugio and 3 miles southeast of Greta Field. Six and one-half miles south of the above test, Quintana Petroleum Co.'s No. 1-B O'Connor, on a separate block, is preparing to make a drill stem test from 5,588-5,612 feet.

Coleto Creek

In the Coleto Creek Field, Victoria County, Nutex Oil Co.'s No. 2 Zimmer was being completed for a producer late in the week, and estimates were it would be good for around 275 bbls. daily. The operators started swabbing Saturday from a total depth of 2,332 feet. On a 10-minute drill stem test early in the week it tested 425 feet of oil and 75 pounds of pressure. It is bottomed at 2,339 feet and has the appearance of making the second producer in the field. In the same field, Albert Plummer's No. 1 Zimmer is drilling below 3,400 feet in sidetracked hole. Rupert Co.'s No. 1 Zimmer is preparing to complete his well for a gasser at 2,857 feet. American Liberty Oil Co.'s No. 1 Terrell has been abandoned at 4,750 feet. Seven miles southwest of the field and 2 miles east of the San Antonio River, Devonian Oil Co. of Tulsa has made location for a wildcat on the Joseph N. Fagan estate in the southwestern part of the county. It is to be a 6,000-foot test and is in the Peter Teal Survey on a block of 2,900 acres.

Brazoria County

The Stanolind Oil & Gas Co. is to announce location within the near future for a wildcat to be drilled on its block of 5,200 acres on the Hastings prospect in the eastern corner of Brazoria County. Other active wildcats include Amerada Petroleum Corp.'s No. 1 Houston Farm Development Co. on the east bank of Chocolate Bayou and south of Liverpool in the L. Bachelder Survey No. 156. It is drilling in sand below 6,615 feet. It is to be an 8,000-foot test. Five miles southeast of Alvin C. & R. G. Drilling Co. is drilling below 6,000 feet on its No. 1 Frank Truska. It is in Section 7, H.&T.B. R.R. Survey. In the old Ocean district, Harrison and Abercrombie are still having trouble with a stuck drill stem at 7,300 feet. It is to be drilled to 8,000 feet. It is on the Bernard River land in Lot 6, in the western part of the county. Four miles southeast of Juliff in the H.T.&B. Survey, Turnbull and Irwin are drilling in shale below 5,175 feet on their No. 1 Braden.

Fort Bend County

Humble Oil & Refining Co.'s No. 1 Mrs. Anna Hackstedt, on the Needville Prospect, Fort Bend County, has been abandoned at 6,015 feet. It is in the Robert Hodges Survey.

Jefferson County

In Jefferson County, Magnolia Petroleum Co.'s No. 1 Herbert Trust, in the P. H. Bell Survey No. 2, is drilling in sand below 7,391 feet and has shown nothing of importance. The deep test of Sun Oil Co.'s No. 1 H. Long, in the John Blair Survey, which has been fishing for a drill stem is being plugged back and sidetracked at 6,304 feet.

Bosco Field

In the Bosco Field, Acadia and St. Landry Parishes, in South Louisiana, interest is centered on Superior Oil Producing Co.'s No. 1 Auguste Martinez which is preparing to make a test of a deep sand from 9,320-25 feet. The 7-inch casing has been perforated at 9,152-68 feet, and the operators are swabbing below 6,171 feet in attempt to make a test. The well is southeast of the discovery and if completed as a producer will be the deepest producing well on the Gulf Coast. Location is Section 35-8s-3e. Two new locations and one completion were reported. The company's No. 3 Iseringhauser is in the SW cor. Section 27-8s-3e, and No. 1 Trahan is in the SE cor. Section 27-8s-3e. No. 1 Sidney Fali was completed at a total depth of 7,855 feet, for an initial production of 850 bbls. per day flowing through a fourteen-sixty-fourths inch choke on the tubing and a one-sixty-fourth inch choke on the casing with tubing pres-

Wildcat Operations on Gulf Coast

Week Ending September 29

RACCOON BEND—AUSTIN COUNTY

Humble O. & R. Co.'s No. 6 Alberta Diemar, 525 ft. at right angles from NW line and 357 ft. at right angles from SW line and 425 ft. W of No. 3, Wm. Harvey Sur. Drlg. shale 4,420 ft.

Humble O. & R. Co.'s No. 13 Robertpaine, 510 ft. at R/A from NW line and 400 ft. at R/A from NE line of 366-ac. tract, Wm. C. White Sur. Drlg. clay 1,344 ft.

Humble O. & R. Co.'s No. 6 Belleville, W. C. White Sur. Set csg. 3,420 ft.

Humble O. & R. Co.'s No. 4-A McCasland, 1,305 ft. E of center cor. of McCasland and Geiske tract, and 565 ft. from N line of lease, Wm. White Sur. Comp.; T.D. 4,130 ft.; I.P. 45 bbls.; ¾-in. choke.

Humble O. & R. Co.'s No. 1 Sherrill (D.D.), W. C. White Sur.; 650 ft. NE line and 400 ft. SE line. Drlg. shale 3,419 ft.

DANBURY—BRAZORIA COUNTY

Shell Pet. Corp.'s No. 7 Blakely-Winston, 63 deg. 11 min. E, 5,540 ft. N, 26 deg. 49 min. W, 200 ft. from SW cor. of Blakely-Winston 560-acre tract, H.T.&B. Sur. Location.

Shell Pet. Corp.'s No. 3 Haury, 800 ft. SE of No. 2 in line with No. 3 and No. 1 Blakely-Winston, H.&T.B. Sur. No. 13. Drill pipe stuck 6,920 ft.

Shell Pet. Corp.'s No. 1-A Schmitt, 357 ft. E and 107 ft. from NW cor. of 146-ac. tract in J. H. Bruner Sur. S.D. 2,540 ft.

DAMON MOUND—BRAZORIA COUNTY

Esco's No. 1-D Wisdom, 25 ft. from S and W lines of Blk. D, Lot 5, A. Darst Sur. S.D. 1,280 ft.

Intercoastal Oil Co.'s No. 12 Wisdom, 90 ft. from N line and 35 ft. from W line of Lot A, Blk. 51, A. Darst Sur. Drlg. 1,422 ft.

H. Wisdom's No. 1 Proctor, 40 ft. out of SW cor., Blk. 1, A. Darst Sur. Waiting on pumping unit at 1,630 ft.

MANVEL—BRAZORIA COUNTY

Texas Co.'s No. 2-A Casolo, 200 ft. N and 200 ft. W of SE cor. of lease, Chas. O'Donnell Sur. Rigging up.

Texas Co.'s No. 3 Scopel, 200 ft. S of N line of lease and 330 ft. SW of SW line of Belcher lease, Charles O'Donnell Sur. No. 74. Drlg. sand 3,582 ft.

Texas Co.'s No. 4 Houston Oil Field Assn., 347 ft. S of N line and 441 ft. W of SE cor. of Lot No. 10, A.C.H.&B. Sur. No. 91. Drlg. gumbo 1,150 ft.; set 10-in. at 1,121 ft.

Gulf Prod. Co.'s No. 3 F. H. Colby, 330 ft. from SE and 330 ft. W from N cor. of Lot 19, SE offset to Windsor Oil Co.'s No. 1 Colby, T. Sproggins Sur. Drlg. shale 4,520 ft.

(Continued on Page 81)

sure 825 pounds and casing pressure 2,550 pounds. When first completed it showed 9 per cent b.s. and water but is now making 5 per cent. Location is in Section 27-8s-3e. The company's No. 1 Walter V. Larcade in Section 35-8s-3e, has cemented 9⅝-inch casing at 7,834 feet and is waiting on cement to set at a total depth of 7,849 feet.

Vinton Field

Sutton Oil Co. has completed its No. 2 M. Gray in the Vinton Field, Calcasieu Parish, for a 260-bbl. well on a three-eighths inch choke, showing 5 per cent salt water with gas pressure at 50 pounds. It was completed from sand at 3,600 feet. The test was originally started by Trio Oil Co. It is in Section 33-10s-12w.

In the Roanoke Field, Jefferson Davis Parish, two wells are to be on the completion list by the first of the week. Humble Oil & Refining Co.'s No. 1 Martin Kratzer, one-half mile southwest of the discovery, is waiting on cement to set at a total depth of 8,830 feet. Seven-inch casing was cemented at 8,814 feet. It is in Section 12-9s-4w. Shell Petroleum Corp.'s No. 1 Jernigan, an east offset to the discovery in Section 12-9s-4w, is running screen and 2½-inch tubing at a total depth of 8,764 feet. Humble Oil & Refining Co.'s No. 3 Devilbiss is fishing at 8,746 feet. It is in Section 12-9s-4w, three-quarters of a mile southwest of the discovery well. Same company's No. 1-B Devilbiss is drilling below 5,491 feet in hard sand.

Shell Petroleum Corp.'s No. 2 C. L. Johnson, in the Iowa Field, Jefferson Davis Parish, was completed for an initial production of 1,570 bbls. per day with casing pressure 1,225 pounds and tubing pressure 1,235 pounds. Total depth is 6,974 feet. It is west of the field and offsets Magnolia Petroleum Co.'s No. 6 B. T. Wait. Shell Petroleum Corp.'s No. 5 Stafford is due to be completed this week. Seven-inch casing was cemented at 6,850 feet and it is bottomed at 6,909 feet.

Bureau of Mines Report on Petroleum and Refined Products for 1933

According to final figures compiled by the Bureau of Mines, Department of the Interior, the production of crude petroleum in the United States during 1933 totaled 905,656,000 bbls., an increase of 120,497,000 bbls. (15 per cent) over 1932. Imports of crude in 1933 totaled 31,893,000 bbls., or 29 per cent less than in 1932, and imports of refined oils were 13,501,000 bbls., or 55 per cent below the level of 1932. The production of natural gasoline and benzol decreased to a total of 35,178,000 bbls. in 1933, making the total new supply of all oils 986,228,000 bbls., or 10 per cent above 1932. Stocks of all oils, which had declined materially in 1932, showed a moderate gain in 1933 in rising from 592,194,000 bbls. on hand January 1, 1933, to 603,207,000 bbls. on hand December 31, 1933. The increase in stocks of 11,013,000 bbls., when deducted from the total new supply, gives 975,215,000 bbls. as the total demand for all oils in 1933. Of this total, 868,488,000 bbls. (89 per cent) represented domestic demand, 36,584,000 bbls. represented exports of crude, and 70,143,000 bbls. represented exports of refined products.

Prices of crude petroleum, which improved in 1932, dropped again to the low levels of 1931 when production became uncontrolled in East Texas in the spring months. Higher postings in the last half of the year came too late to prevent a material decline in the average value per barrel, which fell from 87 cents in 1932 to 67 cents in 1933. In spite of the material gain in output, the total value at the wells for 1933 ($608,000,000) was 11 per cent below 1932 and the lowest total since 1917. The average values per barrel for the states were generally lower in 1933 than in 1932, California being the most notable exception.

After increasing sharply in 1932, drilling declined in 1933 to the lowest point in many years; only 12,312 wells were completed in 1933, compared with 15,040 in 1932, and with an all-time peak of 33,911 in 1920. The number of producing wells continued to increase, totaling 326,850 on December 31, compared with 321,500 on January 1.

The fluctuations in domestic crude production in 1933 were much more pronounced than in 1932, the variation in daily average production by months in 1933 being from 2,102,000 bbls. in January to a peak of 2,813,000 bbls. in June, a range of over 700,000 bbls. Texas, by virtue of a 90,000,000-bbl. gain in output, consolidated its position as the leading producing state. Production in Texas in 1933 totaled 402,609,000 bbls., of which East Texas had 204,954,000 bbls., or slightly more than half. Production in the older producing districts of Texas declined in 1933, the Gulf Coast being the only other district, outside of East Texas, that showed an increase. The output of Oklahoma increased substantially in 1933 as the output at Oklahoma City more than doubled. Production in California recorded a small decline in 1933. New discoveries were below normal both as to number and size in 1933. No likely looking fields were uncovered in California in 1933 but both Oklahoma and Texas had several, of which the Crescent (Oklahoma) and Greta (Texas) Fields appeared to have the most promise.

The trend of crude stocks was sharply upward from February to August, except in April, when both the East Texas and Oklahoma City Fields were closed down for part of the month. Following the adoption of the code, crude stocks remained relatively stable as supply and demand were brought in closer agreement. Total stocks of refinable crude on December 31, 1933, totaled 355,312,000 bbls., compared with 339,875,000 bbls. on hand January 1.

Refined Products

The combined effect of an increased demand for refined products and an oversupply of cheap crude resulted in a gain in crude runs to stills of from 819,907,000 bbls. in 1932 to 861,254,000 bbls. in 1933.

The domestic demand for motor fuel in 1933 totaled 377,003,000 bbls., an increase of 1 per cent over 1932. Exports of motor fuel continued to decline, totaling 29,321,000 bbls., compared with 35,438,000 bbls. in 1932. Only 15,000 bbls. of gasoline were imported in 1933, against over 8,000,000 bbls. in 1932. Stocks of motor fuel and natural gasoline increased from 54,310,000 bbls. on January 1 to 55,933,000 bbls. on December 31. The percentage yield of gasoline recorded its first annual decline in falling from 44.7 per cent in 1932 to 43.7 per cent in 1933.

In general, the demand for fuel oils increased in 1933, which fact appears substantiated by increases in the domestic demand figures for kerosene, gas oil and residual fuel oil. The domestic demand for lubricating oils increased following gains in gasoline consumption and industrial recovery. The demand for wax increased materially and stocks of that commodity were drastically reduced.

PERCY A. ROCKEFELLER DIES

NEW YORK, Oct. 1.—Percy A. Rockefeller, 66, nephew of John D. Rockefeller, Sr., died last week. He was a director of important banks and industrial corporations. He was born in New York, February 27, 1878, and after the death of his father represented the William Rockefeller interests in the National City Bank for several years.

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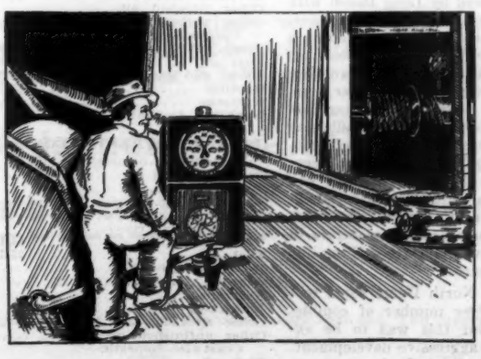

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Crude Production Allowable for California Fields in October Is Expected to Help Curtailment

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Oct. 1.—Allocation of a daily crude oil production quota of 452,300 bbls. for California during the month of October was received by operators in general with considerable favor as this allowable will greatly enhance curtailment work and obviate the necessity of making any drastic reductions in the permissible production of California fields. It has been felt that if the allowable quota is cut too much it will tend to induce some operators to overproduce on the pretext that they must have a certain income with which to meet current expenses. There can be no questioning the fact that a definite resistance point has been reached and that further reductions may cause serious defections. A number of operators are of the opinion that crude oil production should be maintained around 460,000 bbls. per day straight through the winter season and kept down to around 500,000 bbls. per day during the forthcoming summer. They are of the opinion that this would make it easier for operators to conform with curtailment because they would know in advance what the quota would be for the next month.

Reflecting the completion of a relatively large number of new wells, which showed substantial initials, potential daily production of the state registered a large increase and continued its consistent uptrend which has been rather marked all year. Mountain View, Kettleman Hills, Inglewood and the Santa Barbara Mesa all yielded wells registering substantial production and consequently the potential of these fields will be stepped up during October. The umpire has not yet completed final compilations but should have the preliminary schedules completed within the next few days at which time the Central Committee will plunge into the task of allocating the production by fields.

New Work

During the past week, operators made locations for 24 new wells in various parts of the state and at the present rate drilling operations during 1934 will exceed even the most sanguine expectations. One of the most interesting features in connection with development work during the present year is the fact that this work does not reflect any town lot drilling as was the case in 1933. Because of this it is of more importance as it is indicative of a more healthy condition and consequently should be sustained for a longer period of time. Last year, Huntington Beach, due to town lot development, was the center of drilling with 51 completions followed by Long Beach with 50 new wells, but this year drilling operations cover a broader scope. Mountain View has displaced Huntington Beach as the hot spot but this does not mean very much since operators in the former area, in contrast with conditions existing last year at Huntington Beach, are adhering more closely to curtailment and are conforming with requirements which regulate the number of new wells that can be drilled to each unit. Instead of drilling 10 wells to each acre as has been done in most town lot areas, operators in the Mountain View Field are drilling one well to each 10 acres.

The Kettleman North Dome Field will show a much larger number of completions this year but this was to be expected in view of aggressive development. This does not mean much, however, as operators in that field are still showing a higher percentage of curtailment than any other field in the state from a potential standpoint. Conservative but aggressive development in the North Dome is rather desirable because this work will build up a reserve that may be needed some day while in the meantime the industry does not have to worry about some one blowing the lid off. These operators are of the old line and recognize the advantage of building up a reserve and then holding it back until the opportune moment.

Operators in the Inglewood and Elwood Fields are following a similar policy and these acres will be heard from at some time in the future when prices are more in line with the intrinsic value of petroleum and its products. The North Belridge Field is another area where operators are conforming with curtailment to a marked degree due to a mutual agreement of operators to retard production until conditions show some improvement and the demand warrants increased production. In the Dominguez Field, where the Union and Shell control approximately 95 per cent of the productive acreage, operators are proceeding with development due to lease requirements and not because of choice. Due to this condition, Dominguez will show a relatively large number of completions during 1934 but there will not be much change from a production standpoint.

Mountain View

Operators in the Mountain View Field of Kern County are expected to make up for lost time within the next three weeks if the number of new locations made this week is any criterion of what we may expect in the near future. The recent completion of several large flowing wells in the extreme western part of the field has renewed confidence and while a few of the locations staked will be retarded pending developments there is a very decided decision to enlarge drilling operations in certain areas. No. 3 Kernco and No. 2 Kible of the Union, No. 2 Wible of the Standard, No. 3 Mateo Smith of the Texas Co. and No. 3 S. J. of the Sovereign Oil Co., however, will be drilled immediately. Associated Oil Co. will probably also start two new wells in this field in the near future and one of them, No. 1 Digiorio Farms in Section 3-31-29, will bear watching. This well is in the extreme eastern end of the field and in an area that is receiving considerable attention at the present time.

During the early part of the current week the Wood-Callahan Oil Co. completed No. 2 National flowing 1,460 bbls. of clean 27.9 gravity oil and 1,100,000 feet of gas per day. This new well, located in Section 30-30-29, and the second good well finished by this company on this lease, was bottomed at 5,640 feet but plugged back to 5,602 feet before completion. Hancock Oil Co. is making preparations to drill a new well on the Miller lease in Section 14-30-28 and spud is expected to be made about October 15. Hogan Petroleum Co., discoverer of the Mountain View Field, or at least the first to develop commercial production, is making preparations to conduct production tests on two wells located north of the Barndall's No. 1 Mott, which was completed several months ago. It has become evident that the Bakersfield city council has been shopping around for a better price for a lease on the sewer farm which the Standard and Barnsdall offered to lease a few weeks ago. Both companies offered $100 per acre bonus and a one-sixth royalty.

Huntington Beach

The Standard chalked up an excellent well in the Huntington Beach Field this week when No. 23 Pacific Electric was brought in flowing 2,938 bbls. of clean 28.4 gravity oil and 1,860,000 feet of gas per day. This well, the most westerly producer in the field adjacent to the ocean front, was completed at 4,350 feet and finished with a 6⅝-inch liner carrying 736 feet of perforated. This well was carried down to 4,398 feet but was plugged back to the completion depth because of a gray sand that looked like it might carry water. Standard is drilling one other well on this lease and is erecting rig for another. On the Huntington lease, the company is coring ahead in No. 69-B at 3,705 feet and is making hole in No. 70-B, a recent spud, at 1,100 feet.

Acting on the joint request of U. S. Attorney Hall and F. P. Doherty, special assistant to the Attorney General, and counsel for the defendant, Judge Paul McCormick continued proceedings against the Wilshire Oil Co. until October 16 in order to permit the parties to the action to get together in an effort to iron out some of the contentions and thus permit the litigation to be brought to a close. If the Wilshire and its affiliates agree to conform with curtailment regulations as long as they are in effect it is believed that the suit will be dismissed when it is again called on the date set. These companies agreed to conform with curtailment during the time the suit was on trial and having carried out this promise are now in a position to secure concessions.

Inglewood

In the Inglewood Field of Los Angeles Basin, the Standard finished No. 28 on the Vickers lease No. 1, brought in flowing 2,067 bbls. of clean 28.6 gravity oil and 740,000 feet of gas per day. The hole was completed at 3,220 feet, in contrast with other recent completions which were finished at a shallower depth. The company has two other potential producers nearing completion in this field and both should be tanking oil within 10 days. The Standard also has two new wells nearing completion in the West Coyote Field and they too should be on production shortly.

Union Oil Co. finished a new well in the Long Beach Field this week when No. 24 L. B. C. was brought in on the beam pumping 378 bbls. of 28.3 gravity oil per day from 3,913 feet. This well was completed with an 8⅝-inch water string landed and cemented at 3,793 feet and a 4¾-inch liner including 122 feet of perforated. There are still a number of redrilling jobs under way in the Long Beach Field but the district does not have the kick that it had a few months ago. At Santa Fe Springs the Union finished No. 69 Bell, another new well, and it was brought in pumping 155 bbls. of 32.7 gravity oil per day from 3,745 feet. In addition to finishing this well the Union is making preparations to start three more. General Petroleum is also starting a new well and should begin active drilling within the next 10 days.

Montebello

Fullerton Oil Co. should finish a production test on No. 28 McGinley, a deep Cruz zone completion in the Montebello Field, within the next 48 hours as liner is being run in the hole at present. This well is bottomed at 7,055 feet and has a 9-inch water string landed and cemented at 6,994 feet. St. Helens Petroleum picked up the top of the Cruz shale at 6,977 feet and should be in a position to make a production test within 15 days if developments warrant. The Standard is looking for the Cruz zone in No. 75 Baldwin, but has not yet found it despite the fact that a depth of 7,765 feet has been reached. This well is being carried down as a deep test as it is

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Sept. 16		Sept. 9			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Fuel oil	158,875	22,696	70,472	10,067	10,041,411	919,302
Diesel and gas oil	.....	.....	.....	.....	1,021,175	1,200,559
Gasoline	254,533	36,362	195,863	27,980	5,692,999	7,773,528
Kerosene	74,392	10,627	.....	.....	728,403	568,895
Asphalt	.....	.....	.....	.....	70,019	12,179
Other finished oil	.....	.....	.....	.....	54,778	75,318
Other unfinished oil	.....	.....	.....	.....	.....	72,584
Foreign exports—						
Crude oil	170,584	24,369	126,140	18,020	5,666,122	5,569,574
Fuel oil	127,849	18,264	188,476	26,925	9,004,644	5,932,453
Diesel and gas oil	10,542	1,506	14,000	2,000	2,963,573	2,391,685
Gasoline	67,340	9,620	161,102	23,015	3,180,375	4,287,517
Kerosene	25,881	3,697	16,231	2,319	1,316,318	1,481,313
Other finished oil	.....	.....	.....	.....	3,529	12,086
Other unfinished oil	.....	.....	40,950	5,850	210,500	66,375
Coastwise-domestic—						
Crude oil	270,912	38,702	.....	.....	6,105,252	5,442,231
Fuel oil	331,032	44,433	326,110	46,587	6,834,544	7,257,836
Diesel and gas oil	22,197	3,171	.....	.....	539,764	852,116
Gasoline	307,171	43,882	235,082	19,297	9,281,146	9,152,335
Kerosene	.....	.....	.....	.....	109,662	143,597
Naphtha distillates	.....	.....	.....	.....	.....	27,651

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	78,175	11,168	526,268	400,078
Gasoline	.....	.....	.....	.....	290,826	762,977
Kerosene	.....	.....	.....	.....	276,412	482,430
Lubricants	.....	.....	.....	.....	34,695	74,366
Foreign exports—						
Crude oil	84,714	12,102	77,906	11,129	1,492,701	1,320,041
Fuel oil	25,121	3,589	82,274	11,753	1,581,207	1,040,549
Diesel and gas oil	.....	.....	43,583	6,226	1,085,850	824,450
Gasoline	.....	.....	.....	.....	2,411,704	3,163,072
Kerosene	.....	.....	.....	.....	789,174	809,785
Lubricants	.....	.....	.....	.....	142,157	96,370
Other finished oil	.....	.....	.....	.....	2,760	3,745
Other unfinished oil	.....	.....	.....	.....	5,750	26,278
Coastwise-domestic—						
Fuel oil	.....	.....	195,791	27,970	4,247,420	2,552,822
Diesel and gas oil	.....	.....	.....	.....	119,836	178,250
Gasoline	210,750	30,107	245,667	35,095	3,359,910	2,948,067
Kerosene	.....	.....	.....	.....	54,595	90,083

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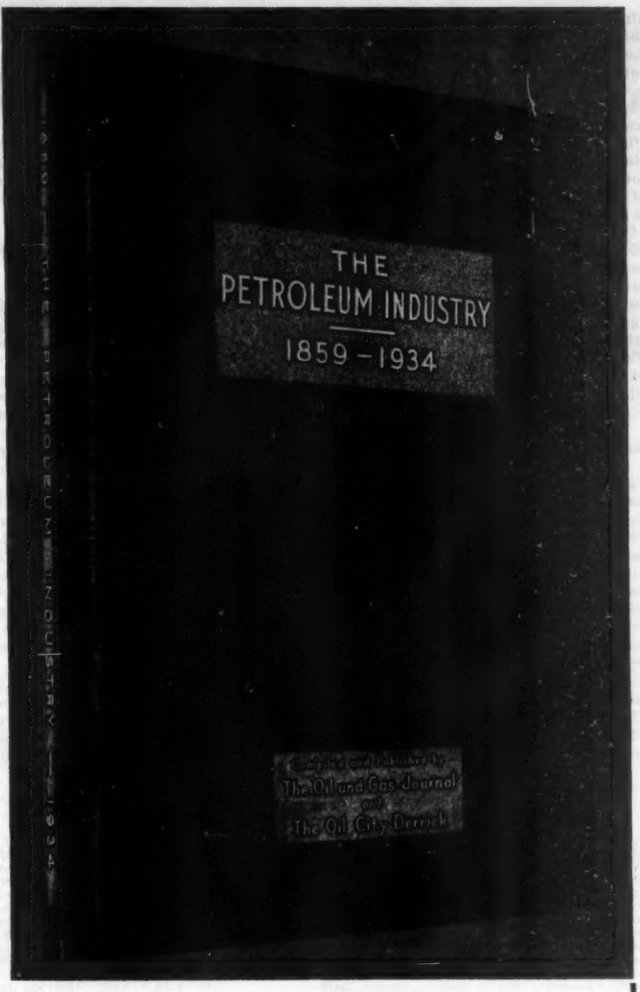

This notable book first appeared as the Jubilee Section of the Journal's Diamond Jubilee Number, published in August. The heavy and continuous demand for copies of that issue has proved beyond question the real worth of this information, never before compiled within two covers. "The Petroleum Industry" is now brought out in permanent binding, for the benefit of readers who wish to preserve this reliable record for constant reference. The oil company, or individual oil man, whose library does not contain a copy of this history may well feel handicapped until a copy of "The Petroleum Industry" has been placed upon those shelves.

How did John D. Rockefeller become interested in oil? Here you find a long account with actual photographs from those early days .... Why did an old passenger coach serve as the first oil exchange? Read the article "Early Oil Exchanges Offered Easy Way to Win or Go Broke." .... What part did "pond freshets" play in the transportation of crude oil after Drake's discovery? Pages 21 to 23 describe that and other transportation problems in lively fashion .... Have you ever seen the derrick and equipment assembly used for the Drake well? See page 24.

Those questions only suggest the vast amount of facts offered by the special stories. But the book also contains valuable articles on every branch of the industry, in five 15-year eras from 1859 to 1934, as follows:

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already more than 700 feet deeper than the discovery well and, based on production contours of the upper zone, is located structurally higher.

Continental Oil Co. is experiencing considerable difficulty in negotiating a lease in the extreme eastern end of the Playa Del Rey Field of Los Angeles Basin, and it will be another 10 days before the company will know the outcome of its efforts. The property in question is in the Centinela acreage and a number of lots aggregating in the total about 850 acres. The Los Angeles planning commission ignored a number of protests early this week and voted to grant the petition of the company that the acreage be excepted from the residential district law and zoned to permit drilling. The planning commission recommended to the city council that the Continental Oil Co. be granted a 25-year lease with a number of stipulations and conditions.

If the Los Angeles city council adopts the recommendations it will require that a discovery be made within five years; rights of way must be dedicated for primary and secondary roads; wells must be located at least 600 feet apart and not within 250 feet from the center line of any highway; oil must be transported out of the field by pipe line and that only limited storage facilities must be maintained. The acreage in question is within four blocks of a beach strip which the Los Angeles playgrounds and recreation department is endeavoring to transform into a municipal seaside park, and consequently the company may encounter considerable opposition when it comes up before the city council for action late next week. In the Seal Beach Field, the Continental recompleted No. 12 Bixby after redrilling and deepening the hole from 4,756 feet to 5,896 feet from which depth it was returned to production flowing 266 bbls. of 26.5 gravity oil per day.

Santa Barbara

Two more good wells were finished in the Santa Barbara Mesa Field early in the past week and a check indicates the probable completion of at least one more within the next 10 days. The new wells chalked up this week were the Beloil Corp.'s No. 1 Martin, which was brought in flowing 940 bbls. of clean 17.9 gravity oil per day from 2,090 feet, and P. J. Lousterlot's No. 1 Tooley, which showed an initial of 440 bbls. of 17.1 gravity oil per day from 2,105 feet. No. 1 Martin was finished with a 4½-inch liner carrying 120 feet of perforated. Due to close drilling, it is doubtful whether these new wells in the Mesa will hold up for any great length of time. During the early life of the field the wells were rather profitable but during the past several months wells have been drilled so close together that it is almost impossible for all of them to show commercial production for any great length of time. In the Santa Maria district Union Oil Co. recompleted No. 1 Moretti after cleaning out the hole and this well, a semiwildcat, was returned to production pumping 100 bbls. of 15.1 gravity oil per day from 2,389 feet. The well has since sanded up and will require further work.

Property Service Corp., a Ralph Lloyd organization, has picked up a promising oil sand in its No. 1 Dabney-Lloyd, an outpost in the extreme eastern end of the Ventura Avenue Field, and the outlook for production is considered exceptionally good. This well is east of Hall's Canyon and will extend the productive limits of the Ventura Avenue Field about 3,000 feet if commercial production is developed. Top of the oil sand was picked up at 6,685 feet and a sufficient amount of hole has been drilled to determine definitely that there is enough oil sand to justify a production test. It is interesting to note that the depth at which this pay was picked up checks closely with upper showings in the main part of the field. The Texas Co. ran a formation tester in No. 128 Shields, an outpost in the South Mountain Field of Ventura County, and the results indicated that the well would be good for approximately 1,900 bbls. of clean 34 gravity oil per day from 3,539 feet. It is the present intention to land a string of casing and proceed to make a normal production test.

Mount Poso

Two new wells were chalked up in the Mount Poso Field of Kern County this week and both of them showed commercial production. The Shell started off the week by completing No. 10 Security pumping 746 bbls. of clean 16.4 gravity oil per day from 1,769 feet, and Union Oil Co. following up this completion by finishing No. 13 S. & M. pumping 430 bbls. of 16.2 gravity oil daily from 1,720 feet. The Union has staked location for four new wells to be drilled in this field and they should be started at regular intervals during the next 30 days. Shell has finished No. 5 Vedder-Rall at 1,890 feet and No. 10 Vedder at 1,743 feet, but no figures are available as to their initial as they are just getting under way. Associated Oil Co. has abandoned No. 1 Fortine as a duster at 2,601 feet and this, the Associated's first outpost in the Mount Poso Field, proved to be a dud.

Amerada Petroleum Co. has picked up some showings in its wildcat at Blackwell's corners in Kern County that may bear watching as a production test is scheduled to be made within the next 10 days. The importance of the showing will not be definitely determined until a test is actually made, but the cores looked rather good. This test is located in an area that justifies exploration as it appears to be a strategic interval between Kettleman Hills and Lost Hills-Belridge. The well has logged about 40 feet of oil sand and an additional thickness of sand below that shows considerable gas. It is thought that the gas zone is wet, however, and the production test will consequently be limited to the oil sand. If production is developed it will lead to additional drilling, as it is probable that the well may not be located on top of the structure as there is very little evidence of structure on the surface.

Strict Tax Enforcement Better Than High Rate

The effectiveness of strict enforcement of gasoline tax laws in increasing the tax yield without raising the tax rate is shown by the experiences of seven states which in the past few years have increased enforcement appropriations, enlarged collecting staffs, and strengthened their laws.

Connecticut in 1931 strengthened the weak spots in its gasoline tax law. Last year, although gasoline consumption decreased as a result of a 5 per cent drop in motor vehicle registrations, the same 2-cent-per-gallon tax yielded 20 per cent more tax revenue than it had two years before.

Pennsylvania, by making a serious and well-financed effort to collect the tax, maintained its income virtually undiminished despite a 25 per cent reduction in the tax rate, while Texas increased gasoline tax collections $3,000,00 in nine months by amending its law and by giving the administrator an adequate staff, a larger appropriation, and a little encouragement and support from other departments of the state government.

Last year Kansas, by inspecting gasoline tank trucks crossing her borders, and by scanning refund claims carefully, increased revenue $1,000,000 during the year, and Nevada eliminated many fraudulent claims for exemptions, thereby reducing the number of its refunds by 80 per cent.

Arkansas recently eliminated all exemptions and refunds, and state authorities predict gasoline tax revenues will increase $600,000 during the next 12 months. South Dakota, aided by a stronger law and more adequate auditing of refund claims, reduced such claims 33⅓ per cent in number and more than 50 per cent in financial loss.

Gasoline tax authorities believe that the experiences of these and other states which have increased gasoline tax revenues without raising tax rates show that efficient collection methods determine the true productivity of a levy, rather than a higher tax laxly enforced.

CLIFFORD F. STUDY DEAD

Clifford F. Study, connection foreman in the Bristow district for the Sinclair Prairie Pipe Line Co., died in Bristow, Okla., on Thursday, September 27. He had been employed by the company and the Prairie Pipe Line Co. since October, 1905. Mr. Study was born in Cedarvale, Kans., in 1883. During his pipe line service he held numerous positions of responsibility having been chief engineer and district foreman for the old Prairie Pipe Line Co. Mrs. Study and one daughter, Aline, survive, together with other relatives. The funeral was held in Bristow.

MERVIN R. SMITH DIES

CALGARY, Alberta, Oct. 1.—Mervin R. Smith, accountant of the Bell Refining Co., died quite suddenly at St. Helens, Ore., while on a holiday trip.

ROBERT CLARKE DIES

TORONTO, Ontario, Sept. 29.—Robert Clarke, for 35 years on the office staff of Imperial Oil, Ltd., and for the past 8 years retired, died here on September 26, aged 75. One son and two daughters survive.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S.T.R.	Depth	Status:
General Pet., No. 11 Capitan, Santa Barbara Co.	32- 5-30	831	hd. sh. drilling
Shell Oil Co., No. 3 Capitan, Santa Barbara Co.	32- 5-30	2,163	form. test, gas
Petroleum Sec., No. 1 Los Alamos, Santa Barbara Co.	6- 7-32	4,180	br. sh. drilling
Barnsdall, No. 2 Gate Ridge, Santa Barbara Co.	9- 8-32	....	graded road
Royalty Ser. Corp., No. 1 Los Alamos, Santa Barbara Co.	35- 9-32	2,416	sd. sh. drilling
Union, No. 2 Santa Maria, Santa Barbara Co.	24-10-34	2,389	pump 100 b.o.
Signal O. & G. Co., No. 1 Elwood, Santa Barbara Co.	tideland	3,660	sd. sh. drilling
Barnsdall-Rio Grande, No. 3 Doty Elwood, Santa Barbara	15- 4-29	5,732	swedge csgs.
East Elwood Pet. Co., No. 1 Elwood, Santa Barbara Co.	14- 4-29	3,512	temp. suspnd.
Shell Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	3,950	gr. sh. drilling
North American, No. 1 Goleta, Santa Barbara Co.	10- 4-28	2,277	hd. sh. drilling
Standard Oil Co., No. 2 Goleta, Santa Barbara Co.	17- 4-28	4,850	redrlg. 2,831
Ortega Oil Co., No. 1 Summerland, Santa Barbara Co.	16- 4-26	3,829	resume work
Cuyama Valley Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	4,196	suspended
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,612	redrlg. 5,889
Continental, No. 3 San Miguelito, Ventura Co.	23- 3-24	6,625	redrlg. 6,600
Texas Co., No. 128 South Mountain, Ventura Co.	4- 3-19	3,539	1,900 b.d. rate
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	1,260	O. S. cmtd.
Piru Oil Co., No. 1 Piru, Ventura Co.	14- 4-18	1,200	suspended
Paloma Oil Co., No. 1 Santa Susana, Ventura Co.	12- 2-18	606	sd. sh. drilling
American Drlg. Co., No. 1 Simi, Ventura Co.	6- 2-17	903	wet—p.b.
Dawson Oil Co., No. 1 Simi, Ventura Co.	5- 2-17	1,031	sd. sh. drilling
Rancho Oil, Inc., No. 1 Ojai, Ventura Co.	18- 4-23	1,550	sd. sh. drilling
Continental, No. 1 Ojai, Ventura Co.	12- 4-23	....	material
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24- 3-23	6,710	O. S. drilling
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21- 4-22	2,400	O. S. reaming
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	2,300	cleaning out
Standard Oil Co., No. 1 McKittrick, Kern Co.	15-30-22	4,800	sd. sh. drilling
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	5,900	sd. sh. drilling
General Pet., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Union Oil Co., No. 18 North Belridge, Kern Co.	36-27-20	8,523	fishing d.p.
Standard Oil Co., No. 1-A North Belridge, Kern Co.	36-27-20	rig	rigging up
Associated Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	7,858	plug 6,850 idle
Amerada Pet., No. 1 Blackwells Corner, Kern Co.	17-26-19	2,231	br. sh. drilling
Home Corp., No. 1 McFarland, Kern Co.	16-26-27	933	sd. sh. drilling
Ohio Oil Co., No. 1 McVan, Kern Co.	23-27-27	1,364	O. S. cmtd.
Pell Oil Co., No. 1 McVan, Kern Co.	14-27-27	rig	rigged up
Vedder Bros., No. 1 McVan, Kern Co.	11-27-27	....	location
P. H. Greer Co., No. 1 Mountain View, Kern Co.	9-31-29	....	location
Hancock Oil Co., No. 1 Mountain View, Kern Co.	14-30-28	....	material
Associated Oil Co., No. 1 Mountain View, Kern Co.	3-31-29	....	location
Texas Co., No. 1 Mountain View, Kern Co.	14-30-28	4,995	sd. sh. drilling
Barnsdall, No. 2 Mountain View, Kern Co.	32-30-29	5,715	plug 5,685
Hogan Pet., No. 5 Mountain View, Kern Co.	32-30-29	6,287	recmtd.
Standard Oil Co., No. 3 Mountain View, Kern Co.	23-30-28	5,295	sd. sh. drilling
Shell Oil Co., No. 1 Mountain View, Kern Co.	30-30-29	5,604	plug 5,464
Gilco, Inc., No. 2 Edison, Kern Co.	23-30-29	rig	rigging up
Jergins Trust, No. 1 Edison, Kern Co.	22-30-29	3,315	suspended
Jergins Trust, No. 3 Edison, Kern Co.	14-30-29	mtl.	building rig
Shell Oil Co., No. 1 Edison, Kern Co.	16-30-29	4,019	will test O. S.
Edison Oil Co., No. 1 Edison, Kern Co.	15-30-29	3,339	hd. sd. drilling
Barnsdall, No. 1 Edison, Kern Co.	26-30-29	2,477	plug 2,107
Centralia Oil Co., No. 1 Edison, Kern Co.	26-30-29	2,317	plug 2,260 wt.
Ohio Oil Co., No. 1 Edison, Kern Co.	36-30-29	2,173	plug 925
Mitchell-McMillan, No. 1 Edison, Kern Co.	8-30-29	rig	suspended
Lee Oil Co., No. 1 Edison, Kern Co.	5-30-29	2,652	sd. sh. drilling
Tejon Ridge Oil Co., No. 1 Commanche, Kern Co.	33-32-29	1,184	sd. sh. drilling
101 Oil Co., No. 1 Elk Hills, Kern Co.	5-30-24	mtl.	building rig
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	6,052	sd. sh. drilling
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	28-12-11	4,438	sd. sh. drilling
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-12-11	6,138	redrill 5,478
Union Oil Co., No. 1 Lillis-Kettleman, Fresno Co.	24-21-16	10,944	d.p. frac. 9,030
Western Gulf, No. 2 S. P., Fresno Co.	11-17-15	5,989	sd. sh. drilling
Farrell Pet., well No. 1, San Luis Obispo Co.	18-31-12	1,250	sd. sh. drilling
Willett Oil Co., No. 2 Cholame, San Luis Obispo Co.	10-25-15	2,202	suspended
Commonwealth Consd. Gas Co., No. 1 Tulare Lake, Kings	21-22-20	2,490	bl. sh. drilling
Commonwealth Consd. Gas Co., No. 2 Tulare Lake, Kings	21-22-20	rig	suspended
Armadillo Oil Co., No. 1 Tulare Lake, Kings Co.	32-22-20	1,760	suspended
Dudley Ridge Dev. Co., No. 1 Tulare Lake, Kings Co.	24-23-20	rig	suspended
Kettleman Pac. Oil Co., No. 1 Tulare Lake, Kings Co.	11-23-16	512	sd. sh. drilling
Weller, Carl, No. 1 Tulare Lake, Kings Co.	11-23-16	1,420	suspended
Mastadon Oil Co., No. 1 Tulare Lake, Kings Co.	27-24-23	rig	suspended
Trico O. & G. Co., No. 1 Atwell, Kings Co.	32-24-22	3,712	suspended
Trico O. & G. Co., No. 2 Atwell, Kings Co.	3-25-23	721	sd. sh. drilling
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-16- 1	5,615	hd. sd. drilling
Milham Expln. Co., No. 3 Tracy, San Joaquin Co.	24- 2- 4	rig	rigging up
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	7,680	sd. sh. drilling
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24- 3	1,506	hd. sh. drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well, location—	S.T.R.	Depth	Status:
Clayton, G. L., No. 1 Cerritos, Los Angeles Co.	31- 3-12	6,698	fishing d.p.
Kelly & Son, No. 1 Torrance, Los Angeles Co.	7- 4-13	6,423	suspended
Woodward Oil Co., No. 1 Athens, Los Angeles Co.	12- 3-14	5,543	suspended
Houser, G. W., No. 1 Athens, Los Angeles Co.	18- 2-14	4,037	cleaning out
Scientia Oil Co., No. 1 Inglewood, Los Angeles Co.	7- 2-14	5,375	cleaning out
Plymouth Oil Co., No. 1 Inglewood, Los Angeles Co.	8- 2-14	5,062	suspended
Wilshire Oil Co., No. 2 Potrero Deep, Los Angeles Co.	27- 2-14	7,917	cleaning out
Fourl, C. W., No. 1 Del Rey, Los Angeles Co.	27- 2-15	4,850	sd. sh. drilling
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24- 3-15	2,661	cleaning out
Standard Oil Co., No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	7,770	hd. sd. drilling
St. Helens, No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	7,000	hd. sd. drilling
Fullerton Oil Co., No. 1 Montebello Deep, Los Angeles Co.	6- 2-11	7,055	prod. test
Shively, N. O., No. 1 Puente Hills, Los Angeles Co.	23- 2-10	..	material
Pressel & Tull, No. 1 Puente Hills, Los Angeles Co.	30- 2- 9	3,585	br. sh. drilling
Barstow Oil Co., No. 2 Saugus, Los Angeles Co.	35- 5-16	2,400	suspended
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34- 5-16	3,296	hd. sd. drilling
Black Eagle Oil Co., No. 1 Huntington, Orange Co.	tideland	3,985	redrill 3,969
Explorers Drlg. Co., No. 1 Fairview, Orange Co.	9- 6-10	945	plug 444
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	6,485	fishing d.p.
B. & B. Oil Co., No. 1 Newport, Orange Co.	19- 6-10	rig	suspended
Piatt & Collins, No. 1 Costa Mesa, Orange Co.	14- 6-10	2,586	fishing d.p.
Mid-Rich Drlg. Co., No. 1 Atwood, Orange Co.	26- 3- 9	3,526	br. sh. drilling
Bridger, J., No. 1 Coyote, Orange Co.	15- 3-10	3,410	suspended
Great American Pet., No. 2 East Coyote, Orange Co.	19- 3- 9	656	sd. sh. drilling
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2- 8	2,462	suspended
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2- 8	3,152	suspended
Great American Pet., No. 3 Chino, San Bernardino Co.	7- 2- 8	rig	rigged up
Tehama Pet., No. 1 Santa Ana Canyon, San Bernardino	33- 2- 8	2,720	br. sh. drilling
San Diego Pet. Co., No. 1 Chula Vista, San Diego Co.	32-18- 2	4,795	gr. sh. drilling
Everts Drlg. Co., No. 1 Camp Kearny, San Diego Co.	23-15- 3	....	location

Important New Wells in Reno and Rice Counties, Kansas; One Connects Haury-Burrton Pools

By JAMES McINTYRE

Among the crop of new oil wells in the Kansas fields brought in in the past week were two that are outstanding. The Derby Oil Co. and others' No. 1-A Ackley, NE NW SE Section 14-23-4w, in Reno County, is a 2,300-bbl. well in Hunton lime at 3,587-3,601 feet, while Torrey, Feaster and others' No. 1 Brown, NE NE NW Section 10-21-6w, in Rice County, is shut in for tankage after staging a flow that indicated a large production. It had chat at 3,408 feet and drilled to 3,419 feet before drilling was discontinued.

The well of the Derby Oil Co. and others, above mentioned, definitely connects the Haury and Burrton Pools in extreme eastern Reno County.

Estimated Production

Estimated daily average production of Kansas in the week ending September 29 and the preceding week follows:

	Barrels	
	Sept. 29	Sept. 22
Hollow	7,995	7,665
Ritz-Canton	12,210	11,680
Voshell	6,065	6,210
Johnson	1,860	1,820
Sedgwick County	7,175	7,400
Nikkell	5,545	5,580
Ellsworth County	2,756	3,160
Barton County	1,194	1,175
Rice County	12,153	13,020
Reno County	5,920	7,000
Ellis County	555	525
Kingman County	1,280	1,660
Stafford County	960	1,465
Russell County	7,250	7,880
Greenwood County	11,750	11,750
Butler County	19,550	19,750
Other pools	17,942	18,940
Total	122,160	126,380

Butler County

F. E. Hall and others' No. 2 Graves, NW SW NW Section 17-29-4, Butler County, had Kansas City lime at 1,820-70 feet. It was acidized and the well pumped 125 bbls. of oil and 75 bbls. of water in 24 hours. It was not completed.

Cromwell & Lewis' No. 5 Stern, SW NW SW Section 27-27-6, was acidized in Viola lime at 3,087-91 feet, and pumped 128 bbls. of oil in 24 hours and was completed.

Texas Co.'s No. 2 Wagner, SW SE SW Section 29-26-6, was abandoned at a total depth of 2,790 feet. It was not a commercial producer when acidized in Mississippi lime at 2,761-90 feet.

Sedgwick County

Lassen and others' No. 1 Wall, C SE SW NW Section 4-28-1, Sedgwick County, was abandoned at 3,506 feet. It had been deepened from 3,100 feet, but found only salt water.

George Dickey's No. 3 Nolan, NW NE NE Section 20-28-1, was completed. It pumped 834 bbls. in 24 hours from chat at 3,067-3,113 feet which had been acidized.

Lassen & Bruce's No. 1-A Baylor, CSL SW NW NW Section 6-26-1, was abandoned at 2,700 feet. It was only a 5-bbl. pumper with 60 bbls. of water, from Kansas City lime at 2,572-2,700 feet.

Paul White, trustee, acidized No. 2-B Gorman, CSL NW NW SW Section 6-26-1, but bailed only a small showing of oil and water. Kansas City lime was topped at 2,555 feet and the total depth was 2,700 feet. It was to be re-treated.

Reno County

Skelly Oil Co.'s No. 2 Smith, C SE SW Section 24-24-8w, in the Abbyville Pool, Reno County, was completed. It produced 377 bbls. in a 48-hour test, from lime at 3,528-49 feet, which had been acidized.

Hartman Oil Co. and others' No. 1 Stone, C NW NW Section 15-24-4w, was completed. It had a pay at 3,337-44 feet, which was acidized. The well made a potential production of 523 bbls. of oil and 40 bbls. of water.

Barnsdall Oil Co. completed No. 1 Sabin-A, C SE SE NW Section 11-23-4w, between the Haury and Burrton Pools. It pumped and flowed 1,069 bbls. from Hunton lime at 3,570-95 feet. Same company's No. 5 Sabine-B, NW NE NE Section 11-23-4w, set 8-inch casing at 3,602 feet and drilled 1 foot into Hunton lime at 3,603 feet and the crew was rigging up standard tools.

Barnsdall Oil Co. completed No. 1 Sabin-C, C NW NW SE Section 11-23-4w. It pumped 1,052 bbls. in 21 hours from Hunton lime at 3,540-66 feet. It was not acidized.

Derby Oil Co.'s No. 1-A Ackley, NE NW SE Section 14-23-4w, had Hunton lime at 3,587-3,601 feet. It flowed 2,300 bbls. in 24 hours with 500,000 feet of gas and was completed.

Olson Drilling Co. and Shell Petroleum Corp. were taking potential on No. 3 Kriehbiel, C NW NE Section 26-23-4w. It had flowed about 15 bbls. per hour from chat topped at 3,248 feet, total depth 3,367 feet.

Sinclair Prairie Oil Co.'s No. 3 Base-A, C NE NE Section 36-23-4w, was showing 15 bbls. per hour from chat at 3,307-66 feet and was to be acidized.

Engler and others' No. 1 Dalzer, C SE SE NW Section 36-22-4w, Haury Pool, Reno County, swabbed 200 bbls. in five hours from chat topped at 3,251 feet, total depth 3,324 feet. It had swabbed down at the end of the five-hour period and the crew was testing. The well had been acidized.

National Union Oil Co. made a location for No. 2 Ackley, C SE SE Section 14-23-4w, and Barnsdall Oil Co. and Indian Territory Illuminating Oil Co. were building rig for No. 2 Baughman, SE NE NE Section 34-23-4w.

Stafford County

Stanolind Oil & Gas Co.'s No. 5 Allen, NE NW SW Section 31-22-11w, Richardson Pool, Stafford County, pumped 454 bbls. in 24 hours after an acid treatment in Siliceous lime at 3,532-60 feet. It was completed.

Empire Oil & Refining Co.'s No. 1 Schilling, C NW SW Section 26-21-13w, Gates Pool, Stafford County, set 6-inch at 3,660 feet, in Siliceous lime, and drilled to 3,675 feet. It swabbed 25 bbls. and swabbed down.

Shell Petroleum Corp.'s No. 1 Schilling, C SW NW Section 26-21-13w, found only sulphur water in Siliceous lime at 3,755-65 feet and was abandoned as a failure.

Atlantic Oil Producing Co.'s No. 2 Gates-A, C NE SE Section 27-21-13w, made a potential production of 449 bbls. in 24 hours from Siliceous lime at 3,644-67 feet, which had been acidized, and it was completed.

Harvey County

In the Hollow Pool, Harvey County, Marathon Oil Co.'s No. 8 Duerkson, NE SW NE Section 19-22-3w, which had twice been treated with acid in Viola lime topped at 3,559 feet, produced only 5 bbls. per day. It had been drilled to Wilcox sand at 3,579-89 feet but found only salt water. The crew was testing.

Sinclair Prairie Oil Co.'s No. 6 Martens, NW SW SE Section 19-22-3w, deepened from 3,376 feet to Wilcox sand at 3,512-43 feet, swabbed 100 bbls. in 18 hours after a 60-quart shot, swabbed 65 bbls. in 8 hours.

Magnolia Petroleum Co.'s No. 7 Schmidt, NE SW NE Section 30-22-3w, was completed. It pumped 252 bbls. of oil and 400 bbls. of water in a 24-hour potential test from Hunton lime at 3,405-13 feet which was acidized.

Hollow and others' No. 1 Summerfelt, NW NE NW Section 8-22-1w, which opened a new Hunton lime pool early in September, pumped 100 bbls. of oil and 40 bbls. of water in 17 hours. It had been acidized at 3,310-56 feet.

Greenwood County

Paulhemus and others' No. 3 Leedy, SE cor. NW Section 25-22-9, Greenwood County, was shot with 20 quarts in the Bartlesville sand at 2,450-2,502 feet, and pumped 154 bbls. in 24 hours. It was completed.

T. K. Simmons and others had machine in for No. 2 Clopton, SW NE NW Section 18-22-11.

McPherson County

Palmer and Phillips' No. 1 Moddelmog, NE NE NW Section 8-21-1w, a wildcat in southeastern McPherson County, got a hole full of water in Wilcox sand at 3,498-3,500 feet, and was drilling at 3,519 feet.

Continental Oil Co. and others have cellar dug for No. 1 Wenger, NW NW NE Section 32-21-1w.

Barton County

Stanolind Oil & Gas Co.'s No. 4 Hauser, C SW NW Section 16-20-11w, Ellenwood Pool, Barton County, was taking potential after acidizing at 3,308-18 feet. Same company's No. 1 Jutling, C SE NE Section 16-20-11w, was completed. It produced 260 bbls. in 24 hours on a potential test.

Empire Oil & Refining Co.'s No. 1 Miller, SE NE SE Section 13-20-10w, Isern Pool, had 2,865 feet of oil in the hole from Siliceous lime at 3,342-46 feet. It filled to the height indicated in 9½ hours. The well had not been tested.

Atlantic Oil Producing Co. had material in for No. 1 Helfrich, 550 feet north and 660 feet east of C Section 36-18-11w.

Rice County

Sinclair Prairie Oil Co.'s No. 4 Thompson, NW SE NW Section 21-20-10w, Raymond Pool, Rice County, had Siliceous lime at 3,342-51 feet. It swabbed down in five hours, producing 155 bbls. and was to be acidized.

Texas Co.'s No. 5 West, SE NW NW Section 21-20-10w, Raymond Pool, pumped 735 bbls. of oil in 24 hours from

(Continued on Page 79)

Wildcat Operations in Kansas

Week Ending September 29

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Lario O. & G. Co.'s No. 1 Whelan, C NW Sec. 32-31-11w.
Chat 4,355-4,435 ft.; P.B. to 4,380 ft.; pumped 231 bbls. oil and 180 bbls. water in 24 hrs.; shut in for tankage.

BARTON COUNTY

Gypsy Oil Co. and Atlantic Prod. Co. and Shell Pet. Corp.'s No. 1 Batchman, C SW NE Sec. 18-20-12w.
Siliceous lime 3,433 ft.; drlg. 3,460 ft.; small show of oil.

Murphin and Downing's No. 1 Lanterman, NW SE Sec. 15-19-11w.
Rigged up; S.D.

National Ref. Co.'s No. 1 Ingersoll, C NW NE Sec. 2-19-13w.
Drlg. 3,065 ft.

C. L. Price et al's No. 1 Ehrlich, NW SE Sec. 10-16-13w.
Rig.

Walter Shearen et al's No. 1 Kempler, SE NE NE Sec. 31-18-11w.
S.D. 300 ft.

BUTLER COUNTY

Gaines et al's No. 1-A McKinley, NE SE Sec. 19-29-4.
Set 10-in. pipe 636 ft.; drlg. 660 ft.

Bill Rex et al's No. 1 DeMoss, NE NW Sec. 8-28-7.
Drlg. 1,865 ft.

F. H. Unruh et al's No. 1-A Joseph, SE SW NW Sec. 18-25-4e.
Rig.

CLAY COUNTY

Seidel Bros.' No. 1 Youkers, C S½ SE NW Sec. 21-9-4.
Drlg. 1,245 ft.

Severs et al's No. 1 Meyers, NE NW NW Sec. 4-10-4.
Drlg. 1,790 ft.

COWLEY COUNTY

National Refining Co.'s No. 1 Robinson, NE SE NE Section 11-34-4.
T.D. 3,105 ft.; chat 3,084-3,105 ft.; recmtng. 5-in. csg.

Otstot et al's No. 1 Eckhardt, SE NW Sec. 15-35-6.
Spudded and S.D.

Wakefield et al's No. 1 Weigle, NW SE SE Sec. 6-32-6.
Drlg. 1,630 ft.

DICKINSON COUNTY

Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1e.
S.D. 2,460 ft.

ELLSWORTH COUNTY

Ainsworth Bros.' No. 1 Charvat, NE NW NE Sec. 33-15-10w.
Rigging up.

Elwell et al's No. 1 Campbell, SW cor. Sec. 20-17-7w.
H.F.W. 3,475-80 ft.; abd.

Lario Oil & Gas Co.'s No. 1 Harbalek, SW NW Sec. 7-16-10w.
Drlg. 925 ft.

GREENWOOD COUNTY

Greeley et al's No. 1 Satler, SW SE SW Sec. 28-25-12.
S.D. 335 ft.

HARVEY COUNTY

Hollow et al's No. 1 Summerfelt, NW NE NW Sec. 3-22-1w.
Hunton 3,310-55 ft.; acidized; pumped 100 bbls. oil and 40 bbls. wtr. in 24 hrs.

Wenzel et al's No. 1 Schrag, NW SE Sec. 24-22-3w.
T.D. 587 ft.; S.D. for csg.

KINGMAN COUNTY

W. C. McBride, Inc.'s No. 1 Wolbridge, NW SE Sec. 16-27-7w.
U.R. 8-in. csg.; T.D. 3,846 ft.; C.O.

McPHERSON COUNTY

C. W. Lamer et al's No. 1 Rolander, NE NE NW Sec. 8-18-2w.
Rig.

Marileen Oil and Goering Bros. No. 1 Decker, NW cor. SE Sec. 20-18-1w.
Siliceous lime 3,529-30 ft.; water; abd.

Roth-Farout et al's No. 1 Bestwater, SE SW SE Sec. 23-20-1w.
Rigged up.

Tom Palmer and Phillips Pet. Co.'s No. 1 Moddelmog, NE NE NW Sec. 8-21-1w.
Drlg. 3,519 ft.

LINCOLN COUNTY

Dieter et al's No. 1 Herrington, NE NW SE Sec. 3-13-1w.

OSAGE COUNTY

Jim Edwards' No. 1 Detrich, C NW SE Sec. 21-14-15.
Rig; S.D.

OSBORNE COUNTY

Carmen & Hershey's No. 1 Fritz, C NE NE Sec. 9-10-14w.
T.D. 1,272 ft.; U.R. 12-in. csg.

RENO COUNTY

Foraker et al's No. 1 Hiett, SE SW NE Sec. 34-24-4w.
Spudded.

Hartman Oil et al's No. 1 Stone, C NW NW Sec. 15-24-4w.
Mississippi lime 3,308 ft., pay 3,337-44 ft.; T.D. 3,352 ft.; pumped 523 bbls. oil and 40 bbls. wtr.; completed.

McBride et al's No. 1 Popp, SW SW NE Sec. 32-24-4w.
Building rig.

Privett Drlg. Co.'s No. 1 Crotts, NE NW NE Sec. 27-26-10w.
Drlg. 725 ft.; set 15-in. pipe 538 ft.

RICE COUNTY

Darby Pet. Co. et al's No. 1 Taylor, NW SE SW Sec. 25-19-8w.
H.F.W. 2,995-3,000 ft.; U.R. 8-in. csg.

Deitrick et al's No. 1 Fitzpatrick, C NE NE Sec. 30-21-8w.
Viola lime 3,535-85 ft.; H.F.W.

Foraker, Nickerson et al's No. 1 Lyon, SE NW Sec. 27-20-8w.
Spudded and S.D.

(Continued on Page 80)

Another Fair Completion in Ritchie County, W. Va. Where Drilling Is Like Town Lot Excitement

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Oct. 1.—Another fair well was completed in the lower Pike Pool in Clay district, Ritchie County, West Virginia. The Lona Oil Co. completed a second test on the Lona McDonald farm in the top of the Injun sand and it started flowing at the rate of 250 bbls. a day. No. 1 on this lease was of equal size.

In this district, where drilling has taken the form of a town lot excitement, George Allen completed the well on the Frank Sheets town lot in the Injun sand at 1,849 feet and it is producing 10 bbls. a day from the Keener sand.

The following wells are drilling in this pool: Smith and Hendershot are down 200 feet in No. 2 on the Charles Wilcox, Sr.; Ralph Roberts is drilling on the William Mercer town lot at 200 feet; Murphy and others are down 350 feet on the M. E. Church lot; Rinehart and others are drilling on the A. J. Glass lease; Lucas and Mahaney have shut down in the sand at 1,825 feet testing on the Earl Cunningham lease. Athey and Yeager have rigged up on the W. H. Yeager farm and J. C. Smith and others have a location on the Lewis Hanlon lease.

There was a fair number of wells completed in the eastern fields during the week. Fourteen producers had a total initial production of 379 bbls. and there were 10 gas wells, some fair. There were also four dry holes. Half of the producers were in Southeast Ohio.

SOUTHEAST OHIO

There were three completions in Ashland County, Southeast Ohio. In Lake Township, SW Section 10, First National Bank of Newark, Ohio, completed No. 7 on the Emma C. Deviney heirs' farm in the Berea sand at 670 feet. It will make a 2-bbl. pumper and has about 25,000 feet of gas a day. In the same quarter section, this operator completed No. 3 on the A. J. McClure farm in the same formation at 660 feet. It has the appearance of a 1-bbl. pumper. In the NE Section 34, Mohican Township, C. O. Moore completed No. 5 on the George Black farm in the Berea sand and it will make a 2-bbl. pumper.

In the NE Section 5, Monroe Township, Guernsey County, George E. Jewell and others, Account No. 2, completed a test on the Earl Weaver farm in the Niagara lime at 3,633 feet. It produced 35 bbls. natural, the first day and has not been shot.

In Licking County, Blue Rock Oil & Gas Co. completed No. 5 on the Walter Hoyt farm, Section 17, Perry Township. It produced 12 bbls. the first day after shot from Berea sand at 732 feet and will make about a 4-bbl. pumper. In the same section, Hughie Ridgway and others completed No. 4 on the A. S. Hoyt farm in the same formation at 715 feet. It produced 7 bbls. the first day after shot and will make a 3-bbl. pumper. In the southwest corner of Lot 1, Hopewell Township, Wehrle Co. drilled a test on the Lulu Orr Caldwell farm through the Clinton sand to 3,185 feet. There was only about 40,000 feet of gas a day, natural. The formation had a small showing of oil along with the gas and a shot did not seem to increase the oil or gas. It will probably be plugged.

In Medina County, E. R. Edson & Son Co. drilled No. 53 on the Ed G. Miller farm, Tract 15, Lot 2, Chatham Township, through the shallow Berea grit to a depth of 491 feet. It was a dry hole.

In Meigs County, Meigs Developing Co. completed a second test on the E. Mosier farm, SE Section 25, Lebanon Township. It was completed in the Berea sand at 1,997 feet and is a gas well with about 600,000 feet a day. In the northwest part of this township and on Lot 146, O. V. Jones and others completed a test on the H. A. McDade farm in the Berea sand at 1,955 feet. It is a gas well showing for 250,000 feet a day.

In Tuscarawas County Gordon Oil Co. No. 3 Account and others completed No. 6 on the T. B. Shearer farm, Lot 34, Washington Township. It was drilled in the Niagara lime at 3,674 feet and produced 10 bbls. the first day, natural. It has not been shot.

WEST VIRGINIA

There were three additional producers completed in West Virginia. In Monongalia County, Pittsburgh and West Virginia Gas Co. drilled No. 1 on the G. T. Moore farm in Clay district down to the Fifth sand or 3,501 feet. The 6⅝-inch casing filled up 800 feet in six hours and it is estimated good for about 40 bbls. a day. In Cass district, Martin Oil & Gas Co. completed the test on the David Lemley farm in the Injun sand at a total depth of 1,862 feet. It is making too much water for an accurate test of the oil and will be shot in the hope of improving production.

In Ritchie County W. H. Bickle drilled deeper No. 3 on the U. S. Fluharty heirs farm on Leatherbark Creek in Murphy district from the Maxon sand at 1,700 feet, where it was a fair gas well, down to the Injun sand, a depth of 2,088 feet. In this formation, it has a showing of about 1 bbl. a day.

In Elk district, Kanawha County, on Coopers Creek about a quarter of a mile from Elk River, the test on the W. L. Burdette farm in the Oriskany sand at a depth of 4,826 feet, and which has a potential production of about 200 bbls. a day, is shut down. There is only about 1,548 feet of 6⅝-inch casing in this hole and this will have to be supplemented by a string down to the bottom in order to drill deeper into the sand and shoot. It has penetrated the Oriskany only about 1 foot and will be drilled deeper. This test has caused considerable leasing in the vicinity and geologists have become interested since it is the first Oriskany sand producer in the state.

Gas Wells

In Boone County, Godfrey L. Cabot, Inc., drilled No. 3 on the J. Q. Dickinson farm in Sherman district through the Berea sand to 3,185 feet. It is a dry hole.

In Calhoun County, Eastern State Gas Co. completed a second test on the Albert Wilson farm in the Maxon sand at a depth of 1,695 feet. It has a volume of about 428,000 feet of gas a day, natural. It is in Washington district. In the same district, Jackson and Bowers completed a test on the Charles White farm in the Salt sand at 1,380 feet. It has a volume of 82,000 feet a day, natural.

In Kanawha County, Godfrey L. Cabot, Inc., completed two wells on the Arabella D. Huntington farm in Cabin Creek district. No. 45 was completed in the Berea sand at 2,825 feet and has a volume of 174,500 feet a day. No. 46 was completed in the Big Lime at 2,105 feet and has a showing of 725,000 feet a day.

In Lincoln County, Kanawha Gas & Utilities Co. drilled deeper No. 125 on the W. W. Ray farm in Carroll district to a total depth of 3,196 feet. There was about 40,000 feet a day in the Big Lime and 68,000 feet a day in the Brown shale.

In Roane County, Guy Boggess and others completed a test on the O. M. Young farm in Smithfield district in the Injun sand at 1,997 feet. It is a gas well with 248,000 feet a day, natural.

In Tyler County, Hope Construction & Refining Co. drilled a test on the J. B. McCoy farm in Lincoln district through the Injun sand to a depth of 1,832 feet. It was a dry hole.

Drilling in West Virginia

In Boone County, Owens Bottle Co. is rigging up No. 22 on the Peytonia Coal Land Co. lease in Sherman district. Here Pure Oil Co. has reached 2,932 feet on the Williams Coal Co. lease No. 260, and 2,275 feet in the second test on the A. M. Prichard lease. Godfrey L. Cabot, Inc., is down 1,436 feet in No. 54 on the Federal Coal Co. lease. In Washington district, this operator is drilling at 1,150 feet on the White and Hopkins lease, a second test.

Cabell County is void of new work. In Calhoun County, W. B. Reed and others are rigging up on the Curtis and Ella May farm in Washington district. Harley Jarvis and others have a location on the Clark Wilson farm. Knotts Oil & Gas Co. is down 1,300 feet on the Phillip Cottrill farm. Kenney and Phillips have the material on the S. A. Carpenter farm. In Lee district, F. F. McIntosh has the material on the E. L. Hays farm. Southeastern Oil & Gas Co. is down 830 feet on the Ida M. McCoy farm, No. 5. Mudlick Oil & Gas Co. is drilling at 1,745 feet on the I. G. Flesher farm. Jarvis and Ayers are still fishing for the tools on the Roanna Robinson farm test which had reached 1,100 feet. In Sherman district, F. F. McIntosh is building a rig on the Seymore Settle farm. In Center district, Chemical Oil Co. has a rig standing for No. 7 on the Tazwell Taylor farm and Howard Brothers one on the L. F. Norman farm.

In Gilmer County McCall Drilling Co. has material on the G. W. Wigger and others lease in DeKalb district. Clem Morris and others are down 2,045 feet in No. 5 on the Cora B. Gainer farm. In Center district, three wells are actively drilling. West Virginia Gas Co. has reached 1,300 feet on the John J. Gerwig farm. McCall Drilling Co. has reached 1,720 feet on the L. R. Moore farm, No. 5. Kenny M. Hunt and others are down 650 feet on the J. R. Simmons and others lease. V. M. Stewart and others are building a rig on the S. P. Miller farm.

In Lincoln County, C. T. McGhee has reached 1,700 feet and shut down for casing on the Victoria Adkins farm in Carroll district. Harvard Gas Co. has reached 4,100 feet drilling deeper No. 3 on the Standard Gas Co. lease in Washington district. In Sheridan district, the United Fuel Gas Co. has abandoned No. 2,074 on the Charlotte Watson farm which proved only a very light gas well in the deeper sands.

In Marion County, Monroe and Laughlin have built a rig on the Harry Antle farm in Mannington district. In this district, Delmar Oil Co. is down 3,167 feet in drilling deeper No. 7 on the Z. E. and A. M. Batson farm. In Marshall County Hazlett Brothers are in the sand on the Ferdinand Otte farm in Union district. In Monongalia County Pedlar Run Oil Co. is drilling at 3,165 feet on the Lewis R. Hess farm. In Clay district, a local company has a rig standing on the J. C. Yost farm.

Ritchie County

In Ritchie County, in the Lost Run Pool, Richards Farm Oil Co. has reached 1,250 feet in No. 5 on the Corley Ball farm. John Trexler and others have a location on the Theodore Butcher farm. Lucky Strike Oil Co. is rigging up on the J. D. Rymer farm. On Dutchman Run in Murphy district, South Penn Oil Co. has a rig standing for No. 42 on the Sarah J. Lemon farm. Bode and Coffell are drilling at 1,580 feet on the B. F. Jenkins farm. Kelley and Mason are building a rig on the B. F. Fleming farm. Everett Starcher and others have started drilling on the I. R. Wilson farm. L. P. Bickle is down 1,570 feet in a second test on the P. W. Morris farm. T. H. Hanley is drilling at 1,850 feet on the D. M. Miller farm. In Grant district, on the waters of Sheep Run, Cairo Oil & Gas Co. has a rig standing on the F. P. Markey farm. In this district, R. W. Richards has a rig completed on his own property. H. N. Rinehart is down 600 feet in No. 6 on the J. B. Markey farm. M. Edwards and others have reached 1,450 feet on the Catherine Freeman farm. Sears and others are drilling at 1,350 feet on the W. H. Grudier farm, a test. Cabin Run Oil Co. has reached the top of the sand on the J. B. Markey farm. In Union district, Dr. Prunty and Jobes have started drilling on the R. G. Davis and others lease.

In Roane County, Henderson Oil Co. has rigged up No. 3 on the F. H. Bee, Jr., farm in Curtis district. Reedy Oil & Gas Co. is down 700 feet in No. 6 on the L. M. Riddle farm. K. M. Hunt and others have a location on the Lizzie Moore heirs farm. In Harper district,

(Continued on Page 80)

SUMMARY OF STATEMENTS RELATING TO BUSINESS OF VARIOUS EASTERN PIPE LINES FOR MONTH ENDING AUGUST 31, 1934

	Gross stocks	Runs from wells	Other receipts	Regular deliveries	Other deliveries
Nat Transit	578,353.85	251,915.34	1,040,362.91	534,754.20	728,123.77
SW Pa. P. L.	343,346.54	81,256.66	772,606.13	492,871.90	462,971.63
Eureka P. L.	804,014.11	289,947.31	262,871.94	334,929.87	302,019.07
Buckeye P. L. (Macksburg)	255,438.82	254,289.98	183,710.19	311,244.77	121,323.90
Buckeye P. L. (Lima, etc.)	2,285,611.94	65,107.34	2,117,593.95	1,410,147.63	1,064,501.34
Buckeye P. L. (Cleveland)	56,856.67	13,082.55	259,636.21	1,456.48	271,036.34
Indiana P. L.	407,172.56	.....	1,346,518.60	1,060,380.96	290,314.06
Pure Oil Co.	705,714.00	723,209.00	26,770.00	786,756.00	.....
Southern P. L.	94,681.45	.....	71,319.33	26,395.33	37,500.69
Bradford Transit	396,242.14	507,528.85	.....	396,480.91	6,761.17
N. Y. Transit	79,260.17	35,827.00	182,276.46	216,508.92	.....
Northern P. L.	330,827.59	.....	699,723.80	150,285.40	374,343.75
Tide Water P. L.	749,435.87	22,737.64	346,525.26	443,153.64	.....
Tuscarora Dev.	3,029.69	.....	.....	177,263.63	.....
Valvoline P. L.	92,617.34	30,676.46	.....	50,634.01	32,977.12
Other companies	137,950.58	332,246.67	10,626.01	210,461.50	.....
Total August	7,222,652.72	2,657,824.70	7,350,538.34	6,598,725.15	3,926,078.84
Total July	7,515,907.61	2,681,237.54	7,161,265.03	6,845,441.15	3,214,098.97
Difference	293,254.29	23,412.84	89,273.41	246,716.00	705,979.87

Dry Holes Exceed Producers During Past Week in Michigan but Wildcatters Continue Busy

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., Oct. 1—With daily production of crude continuing above 31,000 bbls. despite a September Federal allowable of 29,300 bbls. a day reduced to 29,000 bbls. daily for October, the Michigan Proration Committee last week agreed to a new proration schedule of 5 per cent over a minimum exemption of 70 bbls. a well instead of 5 per cent over 75 bbls. in effect last month.

Completions for the past week added comparatively little new oil or gas production with five oil completions aggregating about 4,500 bbls. initial; one gas well making about 500,000 feet of natural gas and 10 dry holes mostly in wildcat or semiwildcat areas. Five other tests were dry in upper formations but drilling deeper for other possible pays.

Despite this discouraging record among wildcats, more than half of the new locations announced are for wildcat tests in widely separated sections of the State. Humble Oil & Refining Co. also prepared to start a seismograph survey in Central Michigan near Alma extending through the Montcalm-Mecosta County area and possibly other counties. Sun Oil Co. also is starting a core test in a new section of Clare County north of the Mount Pleasant area.

These and other wildcat developments indicate an intensive campaign during coming months in search of new oil and gas fields particularly in Central Michigan.

Ten townships in nine counties witnessed completions among the total of 16 during the past week showing the widespread nature of drilling operations.

Midland County

Midland County continued to lead the State in completions as well as the number of drilling wells. Eight of the sixteen completions were in Porter and Greendale Townships. Four of the five new oil producers were Porter Township completions aggregating 4,370 bbls. initial. Two "dusters" also were finished in Porter and Greendale Townships.

Theodore Oil Co.'s No. 6 J. W. Campbell, NW SW NE Section 17-13n-1w, was completed by Goll, Graves & Mechling as the largest new oil well of the week making about 4,000 bbls. a day in the Dundee pay sands in Porter Township.

McClanahan Oil Co.'s No. 2 S. M. Densmore, NW SE NW Section 20, also Porter, topped the Dundee at 3,401 feet and was completed at 3,438 feet making about 200 bbls. the first 24 hours and 165 bbls. the second.

Sun Oil Co.'s No. 6 J. L. Miller estate, SW NE SW Section 16, which was drilled into the Dundee pay sands the week before, was completed last week with an initial flow of about 130 bbls. Strange & Fortney's No. 7 J. W. Campbell, SW NW SE Section 18, also Porter-Midland, topped the Dundee at 3,338 feet and drilled to 3,425 feet for an initial flow of 75 bbls. It will be treated with acid.

Two tests in the southeast section of Porter Township, both of which struck promising shows of oil in the Dundee some weeks ago and were tested on the pump were plugged and abandoned. They were the Sun Oil Co.'s No. 1 Frederick, NW NW SE Section 27, which topped the Dundee at 3,399 feet and drilled to 3,450 feet, and C. W. Teater and W. R. Kales' No. 2 Frank Neitzke, NE NW NE Section 28, which struck the Dundee limestone at 3,384 feet and drilled to 3,430 feet.

Greendale Township

Pure Oil Co. plugged and abandoned two tests in Greendale Township, Midland County, last week after extensive attempts to make them commercial producers by acid treatment, pumping and other methods. They were: No. 2 Coates, NW NW NW Section 17-14n-2w, drilled to 3,577½ feet and No. 3-A Root in Section 18.

Pure Oil Co.'s No. 1-A Raynor in Section 17, Greendale Township, was plugged back to 3,051 feet for testing in the upper Traverse formation on the pump after failure to make commercial production in the Dundee.

Half a dozen or more tests nearing completion in Porter and Greendale Townships, Midland County, included Fred Turner's No. 1 Harry J. Bond, SW NE SE Section 7, Porter Township, which was plugged back from 3,450 to 3,446 feet to be acid treated after a show estimated to be good for 50 bbls.

Six others in Porter Township cased on the Dundee or ready for completion this week include: Pure Oil Co.'s No. 10 Mina Narmore, NW SW SW Section 15; Fred Turner's No. 2-B Root, SE SE SW Section 21; Teater and Kales' No. 3 Frank Neitzke, SW NW NE Section 28; Joe Trevor's No. 1-L Saginaw Bank, SW SW NW Section 9; J. P. McHugh's No. 1 State Bank, NW NW NW Section 29, and Carter Lease, Inc.'s No. 4 Carter, SW NE SW Section 18.

Braniger, Giffert & Reasor's No. 2 Fred Sias, NE NW NE Section 8-14n-2w, Greendale Township, also was nearing the top of the Dundee limestone for probable completion this week.

Ogemaw County

The only other successful oil completion in Michigan last week was the Theodore Oil Co.'s No. 2 Ogemaw Country Club, SE SE SW Section 20-22n-2e, West Branch Township, Ogemaw County, which made an initial of 90 bbls. in the Dundee.

Two other Ogemaw tests, both in West Branch Township, were unsuccessful in the upper Traverse and were drilling to the Dundee. They were the Muskegon Development Co.'s No. 1 Frank Estey, NW NW SW Section 28-22n-2e, which encountered water at 1,736-39 feet and was drilling below 1,800 feet, and Tex-O-Kan Royalties' No. 1 Allan H. Schneider, SE SW SE Section 17-22n-2e, which had reached a depth of 2,800 feet and was preparing to drill into the Dundee.

Operators were watching M. J. Ingold's No. 1 Ed Stevenson, C N half SE NE Section 24, Ogemaw Township, which had struck two shows of oil and gas in the Dundee and was drilling more than 90 feet in but was not yet completed.

McClanahan Oil Co.'s No. 1 Boutell, SW SW SW Section 5, Ogemaw Township, was about ready to drill into the upper Traverse this week.

Montcalm County

Although there were no completions in Montcalm County, two Home Township tests had given up hopes for the upper Traverse and were being drilled to the Dundee, while a Day Township test had struck a good show in the Traverse.

Pure Oil Co. gave up trying to make an upper Traverse producer of No. 1 Della Tenney, SE SE SE Section 3-12n-6w, Home Township, after topping the lime at 3,053 feet and striking a show at 3,116 feet. Mammoth Petroleum Corp.'s No. 1 Lucy E. Thomas, NW SW SE Section 11, same township, was drilling at 3,200 feet on the way to the Dundee. The Tenney well was 3,400 feet deep.

Tope-Blunt-Voorhees' No. 1-A Neff Ranch, SW SE NW Section 22, Day Township, Montcalm County, topped the Traverse at 2,970 feet and had a good show at 2,971 feet, or 1 foot in before it was temporarily shut down awaiting further drilling into the pay sands.

Allen Park Oil & Gas Co.'s No. 1 Waite Stephens, SE SW SE Section 36, Home Township, was about ready to test the Michigan gas sands the latter part of the week after being shut down at 1,250 feet for a few days.

Mecosta County

Colmur Oil & Gas Co. will abandon its No. 1 Mecosta Lakes, NE NW Section 8-14n-8w, Morton Township, Mecosta County, after drilling into water at 1,350 feet without striking the Michigan stray gas sands.

Isabella County

Michigan Cities Natural Gas Co.'s No. 2 Winters and others, C SW SE Section 10-14n-6w, Broomfield Township, Isabella County, made about 500,000 feet open flow in the Michigan sands.

Youmans-Wyckoff Oil & Gas Co.'s No. 1 Roy Terry, C SW SE Section 30-15n-6w, Sherman Township, Isabella County, was dry in the Michigan sands but drilling deeper at more than 1,500 feet.

Michigan Cities' No. 1 S. A. D. Pennington, C NE NW Section 2, Broomfield Township, which made more than 2,000,000 feet a day when it was drilled into the Michigan stray sand three weeks

Central West Is Showing More Activity; Twenty Completions in Central Ohio

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Oct. 1.—More activity is shown in the Central West Field, comprising the Lima, Central Ohio, Indiana, Illinois, and Kentucky fields, than for a long period. Development is spreading in advance of present producing areas. Central Ohio is standing up well, due to the development for natural gas. The Kentucky Field is also in line for a heavy development before the winter season.

In the Lima Field, there is a pickup in new completions. In Allen County, C. A. and F. J. Peavey drilled No. 2 on the C. E. Baldwin farm, Section 13, Bath Township, which produced an initial of 20 bbls. from the Trenton lime. L. J. Pease & Co., trustee, is drilling No. 3 on the Steve Zelno farm, Section 14, same township, and Carman Oil Co. is drilling No. 1 T. J. Hadsell farm, Section 13, same township. H. C. Miller & Co. is drilling No. 1 Arthur B. Moorman farm, Section 35, Spencer Township. In Hancock County, S. S. Sweet's No. 17 H. P. Smith farm, Section 11, Eagle Township, produced but 1 bbl. from the Trenton and may be acid treated. In Henry County, P. D. Snornby is drilling on the Carrey heirs farm, Section 6, Marion Township, and No. 1 Amelia Bradenhop farm, Section 5, same township. In Seneca County, Tiffin Industrial Gas Co.'s No. 2 R. L. Shawhan farm, Section 9, is a gas well and in Liberty Township. It is drilling No. 2 Frank Sherger farm, Section 32.

In Sandusky County, Perpetual Rights Corp.'s No. 1, on the Peter Bowe farm, Section 18, Scott Township, produced 1 bbls. initial. In Washington Township, Zorn-Hornung Co. abandoned Nos. 6, 7, 9 and 10 John Kirsch farm, Section 17, and Nos. 4 and 7 J. Fox farm, same section.

In Wyandot County, Cherokee Oil & Gas Co.'s test on the Jesse Smalley farm, was said to make a good oil showing but failed to maintain it, and it is a dry hole at 1,371 feet. Plank Oil & Gas Co.'s No. 2 Oscar Berg farm, same county, is a gas well at 1,368 feet.

CENTRAL OHIO

Twenty completions were reported from the Central Ohio Field, eight being oil wells with an initial of 207 bbls., eight gas wells and four dry holes, a fairly good average.

In Athens County, Ohio Fuel Gas Co.'s No. 1 on the S. E. Searles farm, Section 12, Lee Township, produced only 1 bbl. from the Berea sand at a depth of 1,286 feet. Nuzum & Co. have rigged up on the John Smith farm, fractional Section 34, Carthage Township. Twenty-Five Association Co. is drilling No. 4 on the Henthorn farm, Section 17, Bern Township. A. D. Townsend is rigging up for No. 1 Louis Douglass farm, fractional Section 23, Lodi Township.

In Ashland County, Robinson and others' No. 3 on the A. J. McClure farm, Section 10, Lake Township, produced an initial of 6 bbls. Kenova Oil & Gas Co. is starting No. 1 Floyd Eagle farm, Section 9, Mohican Township. Ohio Fuel Gas Co. is spudding No. 1 G. M. Wise farm, Section 5, Perry Township, and has made a location for No. 1 Tully Scott farm, Section 33, same township. Gold Crown Oil & Gas Co. is drilling No. 4 George Horn farm, Lake Township.

In Lorain County, Ohio Fuel Gas Co. is spudding No. 1 Jane Burton farm, Lot 79, Grafton Township, and has a rig up for No. 1 Edward Robson farm, Section 15, Carlisle Township. Same company has a rig up for No. 1 Adelia Hoskins farm, Lot 52, Eaton Township. R. E. Cain is drilling on the Isabel Cain farm, Lot 86, Russia Township. Wittmer Oil & Gas Co.'s No. 1 James C. Aldrich farm, Lot 62, Grafton Township, was a dry hole at 2,493 feet. Ohio Fuel Gas Co.'s No. 1-5,843 on the J. T. Moon farm, Lot 23, Carlisle Township, failed to find any Clinton lime formation. Same company made location for No. 1-5,903 on the Edwin Robson farm, Section 15, same township. Dempsey and others' No. 1 on the Mathias Wohlleber farm, Lot 49, Russia Township, was dry.

In Holmes County, Ohio Fuel Gas Co. is drilling No. 1-5,883 on the Emanuel Weaver farm, Section 6, Berlin Township. Same company has a location on the Adaline McKinley farm, Section 27, Washington Township, and a location

(Continued on Page 79)

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ago, has been plugged after failure to shut off bottom water.

Two extension tests, Arbaugh Brothers' No. 1 Aldrich, NE SE Section 21, and Bundy Hill Oil Co.'s No. 1 Russell, NW NE NE Section 6, both Broomfield Township, were nearing the Michigan sands.

Dry Holes

Five other dry holes were completed in as many townships and counties in eastern and western Michigan.

J. W. McIntosh completed the Oak Oil Co.'s No. 1 State Bank of Standish, NW NW SW Section 19-18n-5e, Standish Township, Arenac County, in northeastern Michigan, plugged and abandoned in the Dundee.

Power Oil Co.'s No. 1 Collins Broomer, SE NW NW Section 33-7n-6e, Flint Township, Genesee County, in southeastern Michigan, also was plugged and abandoned in the Dundee topped at 2,254 feet and drilled to a total depth of 2,425 feet.

Strange and Fortney completed their No. 1 Jacob Belz, NW NW NW Section 26-7n-10e, Lapeer Township and County, also southeastern Michigan, dry through the Dundee and Monroe at a total depth of 2,285 feet.

Sun Oil Co.'s No. 1 Clara Marble, C SE SW Section 8-17n-8w, Evart Township, Osceola County, northwest of the central Michigan oil and gas fields, was plugged and abandoned after being dry in the Dundee topped at 2,808 feet and completed at 2,858 feet.

Joliet-Morris Development Co.'s No. 3 John Ehlers well, a former Dundee oil producer in Section 8-10n-16w, Muskegon Township and County, proved unsuccessful in a stray sand in the upper Monroe to which it was deepened by the West Michigan Consumers Co., industrial gas line operators. A show of oil was struck at 2,140 feet but it went to water at 2,183-91 feet.

New Locations

Nine new permits for tests were issued during the period of September 20 to 27 by the oil and gas division of the Michigan conservation department. They include three for the Pure Oil Co. in Porter and Greendale Townships, Midland County, as follows: Pure's No. 4 Floyd Younglove, NW SW SW Section 17-13n-1w, Porter; same company's No. 12 Mina Narmore, SE NE SE Section 16, Porter, and No. 3 Arthur M. Ward, NW SW SE Section 7-14n-2w, Greendale Township.

Two new locations in Denver Township, Isabella County, include Arthur R. Morris and Charles Van Keuren's No. 1 J. Hart, SW NW NE Section 18-15n-3w, and the Wittmer Co. Inc.'s No. 3 Mrs. Fred Haskins, nee Sarah Cashen, NE SW SW Section 30. W. Hunter Atha also took out a permit for No. 1 Edward Little, NW SW SE Section 31-16n-4w, Vernon Township, Isabella County. The Little lease lies in the prospective new Gilmore-Vernon Township gas area.

Three new central Michigan wildcats will be drilled under the following permits: Colmur Oil & Gas Syndicate's No. 1 State of Michigan, C NW NE Section 24-14n-9w, Austin Township, Mecosta County; Gordon Oil Co.'s No. 1 J. Brisboy, C NW SE Section 8-13n-7w, Millbrook Township, also Mecosta County; and George G. Hanners' No. 1 J. Dargitz, SW SW SE Section 20-13n-6w, Rolland Township, Isabella County. The Dargitz location is of particular interest as gas in commercial quantities has been encountered on virtually all sides of the township.

Two new tests are scheduled for Sheridan Township, Mecosta County, where a number of unsuccessful tests were drilled several years ago. Material was on the ground for the Consumers Royalty Co.'s No. 1 Frank Case, NE NW Section 23, Sheridan Township, located about a mile southwest of the Benedum-Trees Oil Co.'s No. 1 Grove, Section 14, which had an estimated flow of 2,000,000 feet of gas daily in the Michigan sand but was carried on to the Dundee, where it was dry, plugged and abandoned. A drilling machine also has been moved in for the No. 1 Flowers, C SE NE Section 33, another Sheridan Township test.

McClanahan Oil Co. is starting a new Gratiot County test as No. 1 Sullivan, NE SW NW Section 33, Pine River Township, an area in which several unsuccessful tests have been drilled, but where operators long have believed there was possible commercial production.

The Wilfor-Strand Drilling Co. has moved in a rig to drill for Fred Turner and others on the Sunrise Co-operative Farm Community lease, a 9,000-acre tract in Albee Township Saginaw County, about 15 miles southwest of Saginaw between the Porter and Lapeer Fields. The first test will be in Section 6. An active leasing program is in progress in this vicinity.

H. M. McClure is reported planning a new test in the Church farm offsetting No. 1 Beach, a gasser in Section 15, Richland Township, Montcalm County. The Golden Oil Co. also is starting a new test on the Steffensen lease in Section 5, Montcalm Township and county.

The Secord Oil Co. has rigged up on the No. 1 G. E. Van Houten, Section 35, Millbrook Township, Mecosta County.

Spacing Plan Approved

A well spacing and production plan formulated by the Michigan producers proration committee has been approved in an order received last week from Harold L. Ickes, oil administrator. A system of one well to 10 acres is approved in an amendment to the basic allocation rules for Michigan with a minimum restriction of 25 per cent of unit production designed to decrease small acreage drilling considered detrimental to orderly development.

Under this rule a well on a 5-acre tract will be allowed to produce "one-half of the specified flat allowable plus five-tenths of the percentage of the potential in excess of the flat allowable," while "a well drilled on a 2½-acre tract will be allowed not less than 25 per cent of the production of the regular unit space well."

Oil and gas rights on more than 20,000 acres of state-owned land will be offered to highest bidders at a Michigan lease sale to be held Saturday, October 8, in Lansing, it was announced last week by Ray E. Cotton, acting director of the lands division of the state conservation department.

The sale will include 6,980 acres in Arenac County, 4500 acres in Alcona County, 420 acres in Bay County, 5,300 acres in Gladwin County, 710 acres in Mecosta County, 2,460 acres in Newaygo County, 490 acres in Saginaw County and 840 acres in Midland County.

Motorists Pay An Eighth of All Federal Revenues

Approximately one-eighth of the Federal Government's total internal revenue taxes during the fiscal year ending June 30, 1934, was paid by motorists in the form of excise taxes on automotive transportation, according to the Bureau of Internal Revenue.

Motor vehicle owners paid $309,110,435 in taxes on gasoline, lubricating oil, pipe line transportation of oil, passenger cars, trucks, tires, and tubes, parts and accessories. By far the largest portion of this amount came from gasoline and oil, $227,830,020.87. Although the tax on gas and oil are only 2 of the 118 taxes levied on the petroleum industry, they produced 64 per cent more Federal revenue than did distilled spirits, electrical energy, telephones, telegraph, radio, and cables combined.

Federal excise taxes represent on the average a toll of approximately $13 per motor vehicle, and they are one-third as high as the taxes levied on motor vehicles by the states. Federal revenue obtained from each automotive commodity is shown in the accompanying table.

Gasoline	$202,575,034
Lubricating oil	25,254,987
Pipe line transportation of oil	10,379,349
Motor vehicles	70,901,045
Total Federal motor taxes	$309,110,435

Good Wells Completed in Fitts Pool; Wiser Asks Permit for Water Drive in Rogers County

By JAMES McINTYRE

Oklahoma closed the month of September with a low average production, 451,205 bbls. per day of which Oklahoma City contributed 139,270 bbls. and the Seminole Field 79,690 bbls.

Most of the interest in the past week was centered in the Fitts Pool in Pontotoc County, which is a very busy area. Two good wells were completed in that pool, one by Delaney and others and the other by Moore and others, and a third well of Blackstock and others started off at 540 bbls. in one hour through casing.

The interesting Crescent and Lucien Pools showed no completions and no new operations, and the same may be said of the Oklahoma City Field and the new Polo and Edmond Fields. The Greater Seminole Field offered a considerable number of completions and near completions.

R. H. Redfield, assistant economics analyst for the U. S. Bureau of Mines, gave the Oklahoma Corporation Commission a report on the demand for crude oil in Oklahoma in October which is as follows:

Destination or outlet—	Bbls.
To state plants	*3,350,000
For export	550,000
Fuel and losses	90,000
East Coast plants	500,000
Appalachian plants	1,230,000
Indiana-Illinois plants	5,830,000
Kansas-Missouri plants	1,270,000
Texas plants	1,460,000
Louisiana plants	70,000
Total demand	14,350,000

*Includes shipments from Texas and Kansas.

C. C. Brown, assistant state umpire, recommended to the commission that the September allocations to pools be carried forward through October, except for the South Burbank Pool of Osage County, which would be placed at 10,000 bbls. daily for the field. He estimated that 23 wells would be completed in the wildcat group and recommended that each well be allowed 100 bbls. daily.

C. L. Ellis, superintendent of the Osage Indian Agency, protested fixing the allocation for Burbank at 10,000 bbls., asserting it would mean a reduction in royalty to the Indian tribe as a whole.

Water Drive in Rogers?

The Wiser Oil Co., which owns about 13,000 stripper oil wells in Oklahoma and Kansas and has been one of the leaders in the work of repressuring old wells with air and gas in the Nowata, Rogers and Washington County district, applied to the Corporation Commission for authority to repressure oil wells with water in the same manner as is done in the Bradford Field in Pennsylvania with great success. The hearing was set for October 5. The water drive in the Bradford Field increased production from 3,500 bbls. per day to 35,000 bbls. per day in the past 20 years, and some water drive experiments have been made in the Bartlesville sand fields in Nowata and Rogers Counties, led by the late Burt Collins.

Gas Line to Polo Pool

The Apache Gas Co. of Perry has started construction of an 8-inch pipe line between the Perry gas field and the new Polo oil field, a distance of about 25 miles. Work is to be completed by October 6, it is estimated. Shortage of natural gas in the Polo Field necessitated getting a fuel supply from the same pool which serves Perry, through two small lines.

Osage County

Kewanee Oil & Gas Co. started operations on two tracts it purchased at the recent Osage auction sale. It had rigs on the ground for No. 1 Kennedy, SW SW SE Section 34-26-6, and for No. 2, SE cor. same section, and for No. 1 McKinley, SW cor. Section 35-26-6.

Carter Oil Co. and Peters Petroleum Corp.'s No. 2 D. Stanley, SW cor. Section 2-25-6, South Burbank Field, was completed as a 10-bbl. well. It had been acidized in Mississippi lime and shot in Burbank sand topped at 2,770 feet, with disappointing results.

Carter Oil Co. and Empire Oil & Refining Co.'s No. 5 Higdon, NE cor. Section 3-25-6, was completed. It flowed 3,300 bbls. in 24 hours from Burbank sand at 2,763-2,830 feet.

Phillips Petroleum Co. and Titus' No. 1, NW NE Section 8-25-6, had Burbank sand at 2,777-2,817 feet. It was shot with 80 quarts, and swabbed 56 bbls. in 12 hours. It may be deepened to Burgess sand.

Carter Oil Co. and others had cellar dug for No. 2 Munza, NW cor. Section 2-25-6. Manahan Drilling Co. and others were building rig for No. 5 Ducotey, SE NW NW Section 3-25-6. Champlin Refining Co. had rig up for No. 1 Fletcher, SE cor. Section 4-25-6, and cellar dug for No. 2, NE cor. SE Section 4-25-6. Sinclair Prairie Oil Co. was building rig for No. 1, NE cor. Section 16-25-6.

H. F. Worley completed No. 2, NE SE SW Section 16-25-6, in Burbank sand at 2,829-42 feet, with 4 feet of pay. It pumped 100 bbls. of oil and 30 bbls. of water.

A. H. Kasishke was building rig for No. 2 Swanson, SE NE NW Section 21-25-6.

In the Naval Reserve area Lewis Production Co. and Texas Co. had rig up for No. 1 Kennedy, SE SE SW Section 9-24-7; cellar dug for No. 2 Kennedy, SW SE SW Section 9, and rig on the ground for No. 3 Kennedy, SE SW SW Section 9. Sinclair Prairie Oil Co. and Norbla Oil Corp. have machine in for No. 2, a twin, SW SW NW Section 11-24-7.

The Texas Co.'s No. 5 Copahy, CSL NE Section 29-25-8, was drilling at 1,600 feet. It is an old well being deepened.

Champlin Refining Co.'s No. 1, NW cor. Section 23-24-8, is an 8-bbl. completion at 2,318-54 feet, Burgess sand.

John L. Essley's No. 7, SW SE NE SE Section 5-22-11, was dry and abandoned at 1,837 feet, in Mississippi lime.

Rips Oil & Supply Co. was rigging up No. 6, NW SE SE Section 26-23-10. Ray Branstetter made a location for No. 2, SW cor. NW Section 27-22-11. Johnson Oil & Refining Co. made a location for No. 1, NW cor. SE Section 30-21-9, and W. C. Norris has machine in to start No. 4, SW NW SE Section 29-21-11.

Estimated Production

Estimated production by pool in Oklahoma for the week ending September 29 and for the preceding week follows:

	Barrels	
	Sept. 29	Sept. 22
Allen	7,950	7,785
Blackwell district	4,850	4,775
Bristow-Slick	10,500	10,500
Cushing-Shamrock	13,500	14,000
Chandler district	6,500	6,500
Davenport	750	750
Healdton	9,400	9,350
Hewitt	5,075	5,000
Burbank	9,100	9,100
South Burbank	9,600	8,650
Balance of Osage	25,000	25,000
Lucien	9,540	8,825
Crescent	3,395	3,833
Marshall-Lovell	1,175	1,200
Bowlegs	10,650	11,780
Carr City	4,670	5,730
Earlsboro	8,900	10,175
East Earlsboro	7,655	9,420
South Earlsboro	760	685
Little River	12,390	14,575
East Little River	580	785
Seminole	9,350	10,440
East Seminole	1,315	1,255
Searight	2,475	2,640
Maud	1,025	925
Mission	2,815	3,525
St. Louis-Pearson	16,605	20,485
Keokuk	1,495	1,075
Cromwell	4,600	4,600
Papoose	1,300	1,300
Oklahoma City	139,270	153,135
Asher-West Asher	1,550	1,655
Tatums	7,085	6,250
Sholem-Alechem	4,250	4,350
Duncan	4,600	4,550
Tonkawa-Garber-Thomas	6,450	6,500
Fish	3,250	4,060
Konawa	1,990	2,030
Gray	2,115	2,170
Graham	3,725	3,750
Boldenville	2,875	3,000
Wewoka	4,200	4,250
Yale-Jennings	5,000	5,100
Other pools	61,425	59,892
Total	451,205	476,355

Kay County

The Texas Co.'s No. 2 Smith, NE SW NW Section 29-25-1w, Kay County, which had been drilled to 4,402 feet, having penetrated Wilcox sand at 4,328-34 feet, finding only salt water, was plugged back to chat at 4,135-74 feet, which was shot. It made a 10-bbl. well and was completed.

Noble County

Nine operations have been started in the new Polo Pool in Township 22-2w, Noble County. Three were drilling and the others rigging up or moving in machinery. Stanolind Oil & Gas Co. and others' No. 2 Voss, on the discovery lease, was drilling at 4,775 feet in Simpson dolomite topped at 4,772 feet.

Logan County

In the Crescent Pool in Logan County, Gypsy Oil Co.'s No. 1 Hanewinckel, C NW NW Section 27-17-4w, tested 99 bbls. of oil and 194 bbls. of water in six hours from Wilcox sand at 6,367-74 feet.

In the Langston area, Logan County, the Mid-Continent Petroleum Corp. and others' No. 1 Moss was completed. It pumped 113 bbls. of oil and 20 bbls. of water from Wilcox sand at 5,104-24 feet.

Texas Co. and Stanolind Oil & Gas Co.'s No. 1 Smith, C NE NE NW Sec-

Wildcat Operations in Oklahoma

Week Ending September 29

NORTHERN OKLAHOMA

ALFALFA COUNTY

Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w.
T.D. 6,460 ft.; lost tools and S.D.

BECKHAM COUNTY

Price and Watchorn O. & G. Co.'s No. 1 Hoard, NE SW Sec. 17-8-26w.
Drlg. 2,652 ft.

CADDO COUNTY

H. W. Lee et al's No. 1 Stacey Ferrell, SW NE NE Sec. 3-6-13w; (2,000-ft. test).
Rigging up.

Denver Prod. & Ref. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w.
T.D. 11,230 ft.; drill pipe stuck; S.D.

CLEVELAND COUNTY

Anderson & Kerr et al's No. 1 Wilson, NW SE Sec. 27-10-1e.
Hunton lime 5,675 ft.; drlg. 5,797 ft.

Mid-Continent Pet. Corp. et al's No. 1 Collett, C E½ NE SW Sec. 35-10-1w.
Checkerboard lime 4,825 ft.; drlg. 4,970 ft.

COAL COUNTY

Moore & Deaner's No. 1 Edward, NW NE SE Sec. 27-2-3.
Hunton 6,292 ft.; T.D. 6,294 ft.; reaming.

J. D. Petty Oil Co.'s No. 1 McMillian, SW NW NE Sec. 16-1s-8e.
Drlg. 292 ft.

J. D. Petty Oil Co.'s No. 1 McMillan, SW NW NE Sec. 16-1s-8e.
S.D. 300 ft.

GARFIELD COUNTY

Ross Cummings et al's No. 1 Gage, SE NW Sec. 27-22-3w.
Spudded and S.D.

GARVIN COUNTY

William H. Atkinson et al's No. 1 Pharoah, NW cor. Sec. 15-2-2w.
Set 12-in. pipe 130 ft.

GRANT COUNTY

Heimerich & Payne's No. 1 Crouse, C NE SW Sec. 29-25-3w.
Dry sand 3,100-50 ft.; drlg. 4,043 ft.

Sultan Oil Corp.'s No. 1 Patton, SW SE Sec. 19-29-3w.
Oswego 3,910 ft.; drlg. 4,135 ft.

HARPER COUNTY

Sinclair Prairie Oil Co.'s No. 1 Neff, NW SE Sec. 21-26-24w.
Coring 5,386 ft.

HUGHES COUNTY

J. B. Hill's No. 1-A Perkins, C W½ SW SW Sec. 7-5-9.
T.D. 1,075 ft.; S.D.

Turner et al's No. 1 Williams, SW cor. Sec. 35-7-10.
Rig.

KINGFISHER COUNTY

Jadeka Dev. Co.'s No. 1 Frakes, C SW NE SW Sec. 16-15-6w.
Drlg. 7,380 ft.

LATIMER COUNTY

Leflore Gas & Elec. Co.'s No. 1 James, C W line SE SW SW Sec. 11-6-21e.
Shot sand 1,544-1,690 ft.; 220,000 ft. of gas; tubing pressure 540 lbs.; completed.

LEFLORE COUNTY

East Okla. O. & G. Co.'s No. 1 Metcalf, SW cor. Sec. 2-4-26.
T.D. 2,040 ft.; hole caved; S.D.

Murdock et al's No. 1 fee, SW NE SW Sec. 15-5-25e.
T.D. 2,425 ft.; drlg. by tools.

LINCOLN COUNTY

Mid-Continental Oil Co.'s No. 1 Bolby, C SE SW Sec. 27-12-2.
T.D. 4,310 ft.; C.O.

R. L. Kemp and Comail Oil Co.'s No. 1 Dooley, NE SW Sec. 20-17-6.
Moving in material.

Derrickson and Reserve Pet. Co.'s No. 1 Law, SE SW NE Sec. 25-14-3.
Digging pits.

M. Murray and Ralph Day's No. 1 Rittenhouse, NW NW NE Sec. 26-14-6.
Building rig.

LOGAN COUNTY

W. N. Anthony's No. 1 Fruin, SE SW Sec. 4-16-1.
Wilcox 5,265-85 ft.; P.B. to 5,181 ft.; will shoot Misener sand.

Gypsy Oil Co. and Sinclair Prairie O. & G. Co.'s No. 1 Manning, C NW NW Sec. 3-17-4w.
Drlg. 5,777 ft.

OKLAHOMA COUNTY

Springrose Drlg. Co.'s No. 1 Edwards, C SE Sec. 19-11-1.
T.D. 6,540 ft.; 400 ft. drill pipe in hole; S.D.

OSAGE COUNTY

Peters Pet. Co. and Norbla Oil Co.'s No. 1, SW cor. Sec. 15-25-5.
S.D. 1,712 ft. for water.

Empire O. & R. Co.'s No. 1, SE NE Sec. 3-25-3.
Wilcox sand failure at 3,824 ft.; T.D.; P.B.; shot Layton sand 2,570-2,640 ft.; pumped 75 bbls. oil, 50 bbls. wtr.

Norbla Oil Co. et al's No. 1, SE NW Sec. 19-25-7.
Set 6-in. csg. at 2,063 ft.

PITTSBURG COUNTY

Arkhoma's No. 1 Cummings, NW NE SE Sec. 6-4-12.
Dry and abd. 1,600 ft.

Armoka Oil Co.'s No. 1 Cummings, NW NE SE Sec. 6-4-12.
Dry and abd. 1,600 ft.

Exchange Drlg. Co. et al's No. 1 Chunn, SE NW Sec. 29-4-14.
T.D. 350 ft.; waiting for csg.

P. H. Gray et al's No. 1 Lee, NW SE Sec. 12-5-13.
Drlg. 100 ft.

W. E. Halley's No. 1 Drew, NW SW Sec. 21-3-14.
S.D. 190 ft.

PONTOTOC COUNTY

Charles E. Carter et al's No. 1 Wood, NW SW SE Sec. 5-4-3.
Spudded and S.D.

S. D. Denton et al's No. 1 Gray, NW SE Sec. 9-4-3.
Cellar and pits.

Benedum & Trees' No. 1 James, SE NW SW Sec. 10-5-3.
Drlg. 3,465 ft.

E. M. Blanchard's No. 1 Crabtree, NE SE NE Sec. 27-2-6.
S.D. 2,920 ft.

(Continued on Page 69)

tion 14-17-1w, was completed. It was a 325-bbl. well from Wilcox sand at 5,107-31 feet.

Anderson & Kerr's No. 1 James, SE SE NE Section 11-18-4w, was shot with 40 quarts in Layton sand at 4,735-73 feet. It was cleaned out to the bottom and swabbed 125 bbls. in 24 hours. It was not completed.

Pawnee and Creek Counties

Wood Oil Co. and others' No. 2 Smith-Doolin, CWL NW SE Section 2-19-7, an old well deepened, was shot with 10 quarts in Tucker sand at 2,748-58 feet, and swabbed 50 bbls. of oil and 4 bbls. of water. The owners may drill deeper.

Sinclair Prairie Oil Co. is drilling at 2,584 feet in its No. 15 Ingram, NE SE NE SW Section 2-19-7, an old well formerly bottomed at 2,579 feet.

Sherry and others' No. 1-A Crawford, SE cor. NW Section 28-19-9, was a hole full of water in Wilcox sand at 2,794-98 feet, after having had a 5-bbl. showing in the same sand at 2,787-94, and the hole was abandoned.

A. B. Ice and others' No. 1 Harrod, NE NW SE Section 16-18-8, is a 40-bbl. completion after a shot in Red Fork sand at 2,702-69 feet.

Bay State Oil Co.'s No. 1-A Lasley, SE cor. Section 4-17-8, swabbed and flowed 125 bbls. of oil in 24 hours and was completed. It is a Layton sand well at 1,447-84 feet, which had been shot.

Kirchner and others have a 12-bbl. completion in No. 4 Johnston, NE SE SE Section 14-17-8, an old well deepened to Bartlesville sand at 2,791-2,804 feet.

W. R. Huycke's No. 1 Bailey, SW NW Section 33-17-10, was a hole full of water from Wilcox sand at 3,117-35 feet and was abandoned.

Smith & Hughes and others were rigged up at No. 1-B Barber, SW NE NW Section 24-17-12. J. E. Crosbie was drilling at 265 feet in No. 1 Watson, NW cor. SE Section 10-17-8.

Lincoln County

R. L. Kemp and Comail Oil Co. were moving in rotary for No. 1 Dooley, NE NE SW Section 20-17-6, Lincoln County.

Slick-Urschel, Inc., and others' No. 6 Kentzleman, NE NW SW Section 7-14-4, Chandler Field, had sand at 5,093-94 feet, total depth, and flowed 700 bbls. in 10 hours. Tubing was being run.

The Texas Co. had rig up for No. 1 Hoover, NE NE SE Section 33-14-4.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. completed No. 1 Washam, SW SW NW Section 35-13-5. It had Hunton lime at 4,220-26 feet, which was acidized. The well flowed 1,465 bbls. of oil in 18½ hours, cut one-half of 1 per cent. Later it flowed 560 bbls. in eight hours, cut 6 per cent.

Oklahoma County

In the Edmond Field, Oklahoma County, Mid-Continent Petroleum Corp. had cellar dug for No. 1 Young, SE SW NE Section 31-14-3w.

In the Oklahoma City Field, Watchorn Oil & Gas Co.'s No. 2 Traders Compress, NE NW SE SE Section 34-12-3w, had Wilcox sand at 6,260 feet, total depth 6,409 feet. It flowed 1,002 bbls. of oil in four hours, with gas at the rate of 3,500,000 feet per day.

Phillips Petroleum Co. and Shell Petroleum Corp.'s No. 8 Berg, NW NE SE Section 26-11-3w, produced 1,324 bbls. in 16 hours on the gas lift and was then shut in.

Okmulgee Counties

Harmon Brothers were drilling at 250 feet in No. 1-A Harjo, CEL SW NW Section 8-15-12, Okmulgee County. W. O. Allen was rigging up No. 1 Robinson, NW cor. Section 1-15-13.

Okfuskee County

Burke Greis Oil Co. and others had rig up and tools in for No. 1 Jackson, NE NW NW Section 8-13-11, Okfuskee County.

J. S. Wise and others had a 100-bbl. showing, with a lot of water, in No. 1 Yahola, NE NW SE Section 9-12-11. It had sand at 2,026-30 feet. It made three flows over the rig. The crew was testing.

Barnsdall Oil Co.'s No. 1-A Holmes, SW cor. NE Section 27-12-11, had Cromwell sand at 2,780-2,914 feet and 7,000,000 feet of gas, but the hole filled with water. Eight-inch casing was being run.

Panther Oil Co. completed No. 15 Smith, C NE NE Section 11-11-11, a 12-bbl. well in sand at 1,174-81 feet.

Wells and others spudded in No. 1-B Johnson, NW SE NW Section 34-11-11.

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Simms and others had machine in for No. 1 P. Barnett, NW NE NE Section 13-10-11.

Greater Seminole Field

Carter Oil Co. and others' No. 1 Douglass C-32, C E half SE NW Section 18-10-6, Keokuk Falls area, was acidized in Wilcox sand at 4,579-90 feet, and swabbed 410 bbls. in 14 hours and later swabbed 25 bbls. per hour.

Twin State Oil Co.'s No. 1 Grisso, SW NE NW Section 32-10-6, an old well deepened from 3,836 feet, had a showing of oil and gas at 3,860-61 feet, total depth, and was shut down for orders.

Phillips Petroleum Co. made a location for No. 1 Copeland, NW SE NE Section 5-10-4. Blackwell Oil & Gas Co. was building rig for No. 1 Austin, NE SE NE Section 12-9-4, both in Pottawatomie County.

Atlantic Oil Producing Co. and Gypsy Oil Co.'s No. 2 Delaware, NE cor. Section 13-9-4, was acidized with an oil load in Hunton lime at 4,147-71 feet and after getting rid of the load flowed 351 bbls. of oil in 48 hours, and was completed.

British American Oil Co. made a location for No. 1 J. Reedy, NE NW SW Section 20-9-5, in the Earlsboro area.

Carter Oil Co.'s No. 1 J. Magruder, C E half SW SW Section 2-9-6, Seminole City area, was acidized in Hunton lime at 3,967-4,013 feet and flowed 235 bbls. in 10 hours and later 165 bbls. in 24 hours.

Mid-Continent Petroleum Corp.'s No. 1-A Johnson, SW SW NW Section 13-9-6, had Hunton lime top at 4,027 feet and drilled to 4,053 feet. It flowed 424 bbls. of oil in 24 hours.

Olympic Oil Co. and Searight made a location for No. 2 Dixon, SW NE NW Section 12-9-8.

Marathon Oil Co. and Phillips Petroleum Co., deepening No. 5 Harjo, NE NE SW Section 26-9-9, Hughes County, were drilling at 3,720 feet with 2,000 feet of water in the hole.

Barnsdall Oil Co. had cellar dug for No. 2 R. Davis, SE cor. NE Section 30-8-4, Pottawatomie County.

Erle Halliburton's No. 4 Pierson, SW SE NE Section 9-7-4, in the South St. Louis area, Pottawatomie County, was acidized, with an oil load of 200 bbls. in Hunton lime at 3,680-3,768 feet and later pumped 375 bbls. of oil.

Darby Petroleum Co. and Atlantic Oil Producing Co.'s No. 1 Standridge, NW SW SW Section 10-7-4, found Hunton lime at 3,609 feet, total depth 3,682 feet, was acidized, with a 172-bbl. oil load, and swabbed 200 bbls. of oil in six hours. It will be drilled deeper.

Elbar Oil Co. and others' No. 3 Wyatt,

(Continued on Page 79)

Wildcat Operations in Oklahoma

(Continued from Page 67)

Boyle et al's No. 1 Newbern, SW NE Sec. 31-5-4.
T.D. 3,210 ft.; P.B. to 2,080 ft.

Jarrett Pet. Co.'s No. 1 Johnson, SE NW Sec. 28-4-4.
Hunton 1,579-1,601 ft.; set 8-in. csg. 1,575 ft.; tested, but no oil showing; S.D.

Dandridge et al's No. 1 Stafford, NW cor. Sec. 5-1-6e.
T.D. 680 ft.; S.D.

Gillette & Kroeger's No. 1 Duver, NW SE Sec. 36-1n-6e.
Drlg. 785 ft.

Riddle et al's No. 1 Barnes, SE NW SE Sec. 21-5-4.
Drlg. by tools at 2,850 ft.

J. D. Sledge and Jack Lynch's No. 1-A (twin) Thompson, SW NE SW Sec. 1-1n-7e.
Wapanucka 2,300 ft.; drlg. 3,520 ft.

Southern Oil Corp.'s No. 1 Ladd, C NW NW Sec. 27-3-7.
Rigged up and S.D.

POTTAWATOMIE COUNTY

W. D. Grisso et al's No. 1-A Kenyon, C NE SE Sec. 2-8-4.
Checkerboard at 2,655 ft.; drlg. 2,735 ft.

Phillips and Gypsy Oil Co. et al's No. 1 Flynn, NE NW Sec. 17-6-3.
Wilcox sand 4,666-72 ft.; H.F.W.; abd.

Verser & Clay et al's No. 1 Thomas, NE SE NW Sec. 1-6-6.
12-in. pipe 51 ft.; S.D. 300 ft.

SEMINOLE COUNTY

Harman Oil Co.'s No. 1 Bowlegs, SE NE SW Sec. 1-7-7.
T.D. 1,655 ft.; abd.

Harris and Haun's No. 1 Harjo, NE SE NW Sec. 11-6-6 (O.W.P.B.).
Old T.D. 2,935 ft.; ripped csg. 2,100-12 ft.; flowed 101 bbls. in 24 hrs.; sand 2,155 ft.; drlg. 2,175 ft.

Moran et al's No. 1 Brinlee, SW NE Sec. 27-6-5.
Set 7-in. csg. 2,330 ft.; circulating.

Mudge Oil Co.'s No. 1 Whitney, SE NW Sec. 9-6-7.
Drlg. 1,480 ft.

WASHITA COUNTY

Anadarko Basin Oil Co.'s No. 1 Wolf, NE SW Sec. 23-9-17w.
Rigged up and S.D.

Okla.-Midwestern Oil Co.'s No. 1 Dock, SW cor. Sec. 21-8-18w.
T.D. 2,430 ft.; lost tools in hole; rig down.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire et al's No. 1 Rowland, NW NE NE Sec. 18-3s-10e.
U.R. 5-in. pipe to 3,535 ft.; T.D. 3,709 ft.

J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e.
S.D. 1,135 ft.; machine moved out.

JOHNSTON COUNTY

Gled Oil Co. et al's No. 1 Ferguson, SW SE NE Sec. 26-2s-8.
Rigging up machine.

Okla. Oil Corp.'s No. 1 Tubbi, SW NE SE Sec. 11-2s-8.
Sulphur wtr. at 3,765-76 ft.

MARSHALL COUNTY

Paul Robb's No. 1 Vittetoe, C NE SE Sec. 11-5s-4e.
T.D. 4,937 ft.; S.D. for water.

MURRAY COUNTY

Ed Galt et al's No. 1 Aetna Life Ins. Co., SE NW NW NW Sec. 14-2s-3e.
Arbuckle lime at 990 ft.; T.D. 1,010 ft.; Dry and abd.

T. E. Revell et al's No. 1 Wolfe, NE cor. Sec. 18-1-2.
Sand 2,685-2,710 ft.; show of oil; S.D. for pipe.

STEPHENS COUNTY

Wm. Angle's No. 1 Johnson, NE cor. SE Sec. 17-1n-8w.
Set 10-in. pipe 60 ft.

Carter Oil Co.'s No. 1 McCasland, C NW NW SW Sec. 22-1s-4w.
Drlg. 4,407 ft.

Finley et al's No. 1 Woolsey, NW SE Sec. 10-3s-6w.
Sand 325-37 ft.; show gas; S.D. 440 ft.

J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w.
Rig down, drill pipe in hole; S.D. 3,220 ft.

J. D. Petty Oil Co.'s No. 1 McMillan, SW NW NE Sec. 16-1s-8w.
Drlg. 508 ft.

L. A. Fitts' No. 1 Blankenship, NE cor. NW Sec. 19-3s-10e.
T.D. 651 ft.; S.D.

T. C. Ramler et al's No. 1 Roberts, SW SE SW Sec. 6-2s-12e.
Drlg. 1,004 ft.

CARTER COUNTY

Carter Oil Co.'s No. 1 Bonner, SW SE SE Sec. 19-3s-2w.
Dry and abd. 4,018 ft.

Daphfine Oil Co.'s No. 1 Hooks, SE NW NW SE Sec. 5-1s-2w.
S.D. 1,955 ft.

Hudson & Poland's No. 1 Sullivan, NE SE Sec. 5-5s-1w.
T.D. 4,511 ft.; P.B.; set 6-in. csg. 3,920 ft.; tested wtr.; pulling pipe to abd.

CHOCTAW COUNTY

J. V. Scrivener et al's No. 1 Swink, C NE SE Sec. 29-6s-20e.
S.D. 810 ft.

COMANCHE COUNTY

F. F. Stevens' No. 1 Green, SE SW Sec. 2-1-13w.
T.D. 1,210 ft.; lost bit; S.D.

Heiden & Taylor's No. 2 Crutcher, C NE Sec. 11-1n-12w.
Drlg. 863 ft.

GARVIN COUNTY

National Prod. Co.'s No. 1 Littrell, NE cor. Sec. 31-2n-3w.
S.D. 351 ft.

JACKSON COUNTY

Gypsy Oil Co.'s No. 1 Stokes, SE NW SW Sec. 11-1-20w.
Lime 1,769-11 ft.; show of oil and water; T.D. 1,723 ft.; S.D.

Gypsy Oil Co.'s No. 1-A (Twin) Kelly, NE cor. Sec. 10-1n-20w.
Shot with 10 qts. at 1,150-70 ft.; bailing muc.

Ben Russell et al's No. 1 Unknown, NW SE Sec. 30-1-22w.
Drlg. 3,720 ft., in shale.

JEFFERSON COUNTY

Geo. Pace et al's No. 1 Jack, NE NW NW Sec. 10-4s-4w.
Drlg. 2,963 ft.

Roy Star's No. 1 Jack, SW SE SW Sec. 3-4s-4w.
Abd. 301 ft.

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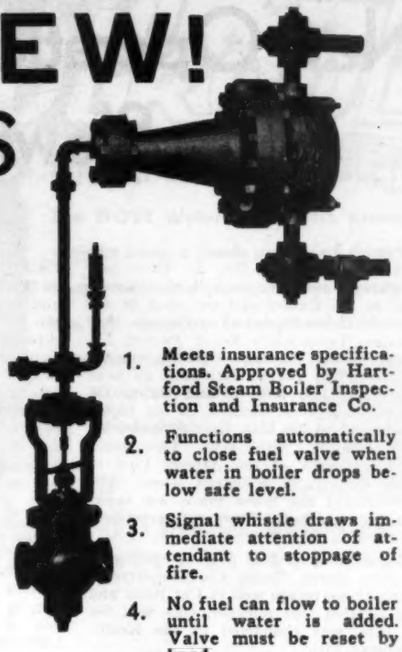

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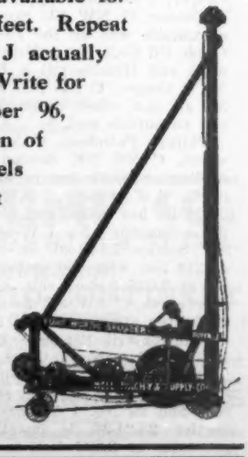

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Fort Worth - - - Texas

New Operations Are Reported in New Mexico; Snow Slowing Up Work in Montana Fields

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Oct. 2.—Three new operations were reported in the Cooper, two in the Eunice and one each in the Jal and Hobbs Pools in Lea County, New Mexico. Texas Co.'s No. 1 Rector, 1¼ miles south of the nearest producer in the Eunice Pool, gauged 132 bbls. an hour with 1,989,000 feet of gas. Gypsy Oil Co.'s No. 9 West Grimes, in the Hobbs Pool, made 6,366 bbls. first 24 hours before treating with acid. Two semi-wildcats north of the Artesia Pool in Eddy County, in a district where little development has taken place, are showing for producers. Two new tests were reported in San Miguel County.

Montana operations were slowed up by a snow storm. Texas Co. completed a better-than-average well in Cut Bank and one location was released, One well for 50 bbls. was completed in the Kevin-Sunburst Field.

There were no completions in Colorado. An unusual wildcat, drilling for oil, gas, water or anything that may be found, is drilling in Pueblo County.

Stanolind Oil & Gas Co. is completing a 300-bbl. well on the Frannie Dome, in Wyoming, and Paul Stock has another producer at Oregon Basin. One gas well was completed in Sweetwater County and two new operations in the Osage Field are getting under way.

Utah, Idaho, Washington and Oregon reported scattered wildcats.

NEW MEXICO

Lea County

The top allowable outlet for the Jal, Cooper, Eunice and Lea Pools for the last half of September was placed at 169 bbls. per well per day as against 172 bbls. for the first half of the month. The slight reduction was to take care of new wells being put on production. The Cooper-Lynn Field allowable was increased from 1,473 to 1,625 bbls. daily and the Eunice Field from 3,149 to 3,779 bbls. The other pools showed only minor changes. Hobbs potential as of September 16 was placed at 1,997,855 bbls. daily from 197 units and the allowable outlet was decreased from 33,689 bbls. daily for the first half of the month to 33,078 bbls. for the last half.

Cooper Area

Three new operations were reported in the Cooper area, as follows:

Continental Oil Co.'s No. 1 R. L. Gates, C NE NW Section 23-24-36, a west offset to Humble Oil & Refining Co.'s No. 1 Cooper, a location; Gypsy Oil Co.'s No. 2 Cooper, C NW SE Section 22-24-36, an outside well on the west of General Crude Oil Co.'s No. 1 Meyers, cellar and pits; and Humble Oil & Refining Co.'s No. 2 Cooper, C NE NE Section 23-24-36, an east offset to its No. 1 Cooper and an outside well.

Phillips Petroleum Co.'s No. 5 Woolworth, C NE NE Section 27-24-36, is drilling at 2,517 feet in anhydrite, and its No. 6 Woolworth, C NW NW Section 26-24-36, has cellar and pits completed. Same company's No. 7 Woolworth, C SE SW Section 23-24-36, set the 12½-inch at 214 feet with 150 sacks, and is drilling at 2,015 feet in salt, and its No. 8 Woolworth, C SW SE Section 22-24-36, is waiting after cementing the 12½-inch at 209 feet with 120 sacks. Humble Oil & Refining Co.'s No. 1 Coats, C NW NE Section 10-24-36, is bottomed at 2,039 feet and fishing for drill stem at 3,020 feet, and its No. 1 Thomas, C SW SE Section 23-24-36, is installing blowout preventer at 2,806 feet, in lime. Texas Co.'s No. 1 Ogg, C SW NE Section 34-24-36, is bottomed in lime at 3,203 feet and running 200 sacks of cement behind the 9⅝-inch at 2,900 feet. Water broke through from behind the pipe and efforts were made to recement through perforated pipe without success. Atlantic Oil Producing Co.'s No. 1 Woolworth, C SW NE Section 26-24-36, is still a location, as is also Stanolind Oil & Gas Co.'s No. 2-A Meyers, C NE NE Section 22-24-36. Gypsy Oil Co.'s No. 1 Cooper, C SW NE Section 23-24-36, is building derrick.

Eunice Area

One completion and two new locations were reported in the Eunice area.

Texas Co.'s No. 1 Rector, C NE SE Section 30-21-36, was drilled to 3,944 feet, in lime, and had an initial production of 132 bbls. of oil an hour with 1,989,000 feet of gas. The pay was at 3,935-44 feet. The elevation is 3,621 feet. It was pinched in to 169 bbls. daily. This well is located 1¼ miles south of California Co.'s No. 1 Meredith, completed several years ago as a producer, and a mile to the northeast of Continental Oil Co.'s No. 1 Lockhart, drilled in 1929 by Marland Oil Co. and completed for 278 bbls. the first 24 hours. From No. 1 Lockhart, on the southwest, to Gypsy Oil Co.'s No. 1 Bell-Ramsey on the northeast, is a distance of 4 miles.

The two new locations are: Humble Oil & Refining Co.'s No. 1-B State, C SW NW Section 29-21-36, a diagonal offset of the northeast to Texas Co.'s No. 1 Rector, cellar and pits; and Gypsy Oil Co.'s No. 2 Bell-Ramsey, C SW NW Section 9-21-36, a south offset to its No. 1 Bell-Ramsey, cellar and pits.

Repollo Oil Co.'s No. 1 State, NE NW NE Section 19-21-36, reported a completion last week for 235 bbls. in 24 hours, was deepened 4 feet to 3,944 feet and production was increased to 500 bbls. per day. It was pinched in to 169 bbls. daily.

Ohio Oil Co.'s No. 2 State-McDonald, C NW SW Section 14-22-36, 5 miles to the southeast of the main development and a mile to the east of a small producer, is drilling at 4,140 feet in lime. A drill stem test at 4,020-60 feet failed to show production, but a saturated core which looks very favorable was taken at 4,050-60 feet. If this well comes in as a producer it will go a long way to confirming the opinion of some geologists that the Eunice and Cooper Pools are continuous.

Shell-Denvonian's No. 1 State, C SW NE Section 20-21-36, is drilling at 3,708 feet in lime, and Tide Water Oil Co.'s No. 3 Coleman, C NE NE Section 17-21-36, cemented the 9⅝-inch at 2,860 feet with 550 sacks and is drilling at 2,870 feet in lime. Continental Oil Co.'s No. 8-B-1 Meyers, C SE NW Section 8-21-36, is waiting after cementing the 7-inch on bottom at 3,752 feet with 400 sacks, and its No. 17-A-4 Meyers, C NE SW Section 17-21-36, is drilling at 3,533 feet in lime. Same company's No. 8-A-2 Meyers, C SE SW Section 8-21-36, spudded September 13, set the 10¾-inch at 318 feet with 150 sacks, and is drilling at 320 feet in the red beds. Skelly Oil Co.'s No. 1 Coleman, C NW NW Section 17-21-36, is still a location.

Hobbs Pool

One completion, one near completion and one new location were reported in the Hobbs Pool.

Gypsy Oil Co.'s No. 9 West Grimes, NW cor. SW Section 32-18-38, was drilled to 4,186 feet (4,176 S.L.M.) and made 3,295 bbls. of oil and 4,000,000 feet of gas initial through the tubing and 6,366 bbls. and 6,000,000 feet through the casing. It is standing treated with 1,000 gallons of acid.

Shell Petroleum Corp.'s No. 1-D State, SE cor. NW Section 24-18-37, an outside well on the northwestern flank, was drilled to 4,110 feet and treated with 1,000 gallons of acid, after which it gauged 15 bbls. an hour. It will be deepened.

The new location is Gypsy Oil Co.'s No. 4 East Grimes, C NE NE Section 33-18-38, which is digging cellar and pits.

Shell Petroleum Corp.'s No. 1 Sanger, SW cor. Section 27-18-38, is drilling at 3,364 feet in anhydrite and lime.

Jal Area

A new operation in the Jal area is Continental Oil Co.'s No. 12-A-2 Wells, C NW NE Section 12-25-36, which is ready to spud with machine. Repollo Oil Co.'s No. 1 Gloyd, SW cor. SE Section 12-25-36, is waiting after cementing the 15½-inch at 68 feet, and its No. 1 Hanagan, SE cor. SW Section 12-25-36, cemented the 10-inch at 1,411 feet with 700 sacks and is drilling at 2,248 feet in anhydrite and salt. Empire Gas & Fuel Co.'s No. 2-B Lindley, NE cor. SW Section 13-25-36, cemented the 9⅝-inch at 1,426 feet with 400 sacks and is drilling at 1,725 feet in salt and anhydrite. Texas Co.'s No. 2-B Shepard, NW NE SE Section 6-26-37, is building derrick. E. B. Guess' No. 1 Justis, SW NW NW Section 20-25-37, for which cellar and pits were completed two months ago, is reported preparing to resume after a shutdown to adjust titles, and its No. 1-B Conditt, NW NE SE Section 11-25-36, is shut down for rotary at 517 feet.

Lea Area

Texas Co.'s No. 1 Elliott, C NE NE Section 22-20-34, is building derrick, and its No. 1 Swearingin, C NE SW Section 8-20-34, is moving in materials. Same company's No. 4-A Lynch, C SE NE Section 34-20-34, is drilling at 110 feet in red beds.

Maljamar Area

Maljamar Oil & Gas Co.'s No. 4 Baish, NE SE NE Section 21-17-32, is building derrick. Skelly Oil Co.'s No. 1 Lea, C NW NW Section 23-17-31, is drilling at 3,742 feet in hard gray lime. This test is in Eddy County.

Eddy County

Two wells drilling north of the Artesia Pool in an area where comparatively little development has taken place are attracting attention. Etz, Hammond & Keyes' No. 1 State, C SE SE Section 16-17-28, is bottomed at 1,959 feet in lime and sand. It found the pay at 1,946-59 feet and oil rose 300 feet in the hole

Turner Valley Well Increases Its Flow; Start New Test in Milk River Area

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Sept. 29.—In the South Turner Valley, Century Royalties' No. 1, LSD 14, Section 28-18-2w5, is clearing itself of fluid and has increased to around 168 bbls. a day. Northwest Co.'s No. 1 Calgary & Edmonton-Longview, LSD 5, Section 27-18-2w5, on the eastern edge, which developed only about 20 bbls. a day from the lime at 6,200 feet, will be given a shot. In the north end, Merland Oil Co.'s No. 2, LSD 13, offsetting No. 1 producer to the south, is ready to spud. Nolan-Hungerford Royalties' No. 1 Rand, LSD 5, Section 34-18-2w5, is below 2,000 feet.

In Section 28-18-2w5, British Dominion Oil & Development Corp.'s No. 4, LSD 6, is resuming from 3,300 feet, after cementing. Spooner Oils' No. 5 Anaconda, LSD 1, is in iron pyrites below 5,405 feet, carrying casing. Renfrew Royalties' No. 1, Morris & Goodfellow, LSD 3, is running 16-inch casing to 1,800 feet. Carleton Royalties' No. 1, LSD 9, is in the Blairmore formation below 4,065 feet and checking closely with Highwood Sarcee's No. 1 producer.

In the same section Pacalta Oils' No. 1, LSD 7, will use rotary outfit from Century Royalties' No. 1 to complete in the lime. It is making around 45 bbls. a day, production being handled in a small refinery erected by British-American Oil Co. on the lease. Publix Oil & Gas Co.'s No. 1, LSD 8, is bailing considerable light crude and has a fair wet gas production from horizons above the lime. Casing is being run to 4,900 feet.

In the south end, Highwood Royalties' No. 1, Oliver, LSD 3, Section 21-18-2w5, is below 2,300 feet. Myers & Wright's No. 2 Pacalta, LSD 14, offsetting Highwood-Sarcee's No. 1 producer, is running 18-inch casing to 1,500 feet.

In the Central Turner Valley, New McDougall-Segur Oil Co.'s No. 7, Section 12-20-3w5, is at 3,465 feet and resuming after cementing.

Tests in the Foothills

In the forest reserve area west of Olds, Hunter Valley Oil Co.'s No. 1 McLaren, LSD 12, Section 13-31-10w5, is below 4,000 feet.

On the Watson structure, west of Lundbreck, Raven Oils' No. 1, Section 20-9-2w5, is below 1,900 feet and has developed a little additional gas. Mar Jon Oil Co.'s No. 3 Prairie, LSD 3, Section 4-10-2w5, has spudded. Vancouver Syndicate's No. 1, LSD 10, Section 20-9-2w5, is working on cellar.

Border Fields

In the Alberta end of the international Red Coulee Field, Vanalta's No. 6, LSD 3, Section 4-1-16w4, is drilling below 1,500 feet.

On the Cardston structure, Franco Oils' No. 1, LSD 6, Section 5-3-25w4, is in a sandstone formation below 200 feet, after shutting off a heavy surface water flow at 70 feet.

In the Skiff Field, Devenish Petroleums' No. 5, LSD 4, Section 27-5-14w4, is shut down at 630 feet owing to weather. On the Comrey structure in southeastern Alberta, Comrey Oil Co.'s No. 1, Section 9-1-5w4, is below 170 feet.

Del Bonita Test

A new test is being started on the Del Bonita structure in the Milk River

(Continued on Page 80)

in 10 hours. It was then given a small shot and the oil rose 500 feet in 30 minutes. It will be deepened as it was still in the pay when drilling stopped. The well is located nearly half a mile to the northwest of Van Welch, Jr., and others' No. 2 State, SW NW NW Section 22-17-28, which was completed last June and flowed 70 bbls. a day through the casing.

The other test is Tignor, Etz & Keyes' No. 1-A Keyes, C SE SW Section 10-17-28, 1½ miles north of the Van Welch well. It is drilling at 1,840 feet in hard gray lime and had 1,100 feet of oil in the hole from 1,806-16 feet. It filled 700 feet in 36 hours. The oil tests 37 degrees gravity A.P.I. scale. The two Welch wells and Western Drilling Co.'s No. 1 Green, 3 miles to the southeast, are the only wells drilled in the area which is 4 miles to the north of the Artesia Pool. Three miles to the northwest in Sections 5 and 6 are some gas wells drilled by the Pecos Valley Gas Co., and the same distance to the southeast are the Leonard gas wells.

Pecos Valley Gas Co.'s No. 9 Vandagriff, SE SW SE Section 5-17-28, is waiting at 595 feet after cementing the 8¼-inch at 590 feet with 20 sacks. Guess & McIntosh's No. 1 State, NW cor. Section 8-26-28, Red Bluff district, is drilling at 2,100 feet in anhydrite.

Torrance County

Witt Oil & Gas Co., which recently completed its No. 2 De Hart, NE SW Section 12-7n-7e, Wilcox Dome, for 640,000 feet of carbon dioxide gas at 1,218 feet, is clearing ground preparatory to erecting a second unit of its dry ice plant. It will have a capacity of 15 tons a day, the same as the first unit. The location of the plant is 4 miles north of Estancia. The first unit was placed in operation two weeks ago. Describing the

"The dry ice comes out in 100-pound blocks. The first saw slices each block into two 50-pound chunks, and the second saw divides 50-pound pieces into two 25-pound cubes, for shipment. They have been running only two weeks.

"As they come off the saws the blocks are wrapped in paraffin-lined sacks, packed into special cork-lined freight cars, on the Santa Fe Railroad branch that hooks up with the main line at Lamy Junction to the north, and rushed to Pacific Coast fruit and vegetable and ice cream markets."

Santa Fe County

Elmer Fisher's No. 1 Hill, Section 6-10n-7e, Barton district, is drilling at 2,095 feet in black sandy lime in the top of the Magdalena formation with a small show of oil.

Guadalupe County

Anton Chico Development Co., Ltd.'s No. 1, NE cor. SW Section 20-9n-17, Anton Chico grant, which changed over to rotary tools at 2,587 feet, set whipstock and is drilling by at 2,100 feet.

San Miguel County

Las Vegas Oil & Gas Producing Co.'s No. 1, CWL Section 2-16-16, Las Vegas district, a first report, is drilling at 501 feet in Granerous shale. It is operating a portable outfit with 25-foot mast and powered by an automobile engine on an automobile chassis. Deason and others' No. 1, CSL SE SW Section 14-15-16, Romerville district, also a first report, is spudding at 190 feet with light Star machine. It starts in the Dakota. It is 300 feet west of a well drilled in 1927 which was abandoned after having a small show of oil and gas in the Santa Rita sandstone at 1,102-70 feet. Cabra Springs Oil & Gas Co.'s No. 1, SW NE NE Section 22-12-22, Pino Mesa, is fishing for tools at 3,803 feet, and its No. 2 Pino Mesa, SWL Section 19-12-22, is rigged and ready to spud.

Chaves County

Comanche Drilling Co.'s No. 1 Sloop-Purcell, NE cor. SE Section 10-11s-26, Roswell district, has let drilling contract to E. B. Guess and C. F. Daniels for a 1,500-foot hole. Roswell Oil Syndicate's No. 1 Hinkle, C NE SE Section 17-11-27, has let 1,600-foot hole contract to Hay Hightower, of Hobbs.

COLORADO

Archuleta County

Navajo Oil Co.'s No. 1 Crowley, SW cor. NE Section 11-32-1e, Chromo district, is reported to have encountered sulphur water at 390 feet, presumably in the top of the Dakota.

Boulder County

Leslie R. Steele's No. 1 Cole, NW cor. NE Section 33-1n-70, Parallel Dome, is drilling at 2,250 feet with a slight increase in gas.

El Paso County

Colorado Springs Oil & Gas Co.'s No. 2 Carson, NW NE NE Section 10-16-66, Fountain district, is drilling at 2,440 feet in Glencairn shale of the Dakota series.

Grand County

Colorado Oil & Refining Co.'s No. 1 Linke, NE SW SW Section 13-1n-77, Grandby district, is drilling at 1,700 feet in sandy shale with an increase in showings of oil and gas. It is below where the third sand was expected, which was not in place.

Jackson County

Continental Oil Co.'s No. 3 Hoye, NW cor. NE Section 34-9-78, South McCallum, is drilling at 1,994 feet in broken lime.

Moffat County

Mountain Fuel Supply Co.'s No. No. 4-B Wilson, C NE NW Section 23-12-100, Hiawatha Dome, is shut down at 2,337 feet after plugging back from 3,797 feet and testing oil sand at 2,304-37 feet. Texas Co.'s No. 1 Van Schaick, SW cor. Section 19-12-100, is drilling at 2,100 feet and carrying the 8¼-inch at 2,000 feet. Stanolind Oil & Gas Co.'s No. 14-8D Parkinson, S NE SW Section 22-4n-92, Iles Dome, has completed rig.

Park County

South Park Oil Co.'s No. 1 State, SE cor. SW Section 16-11-75, Hartsel district, is drilling at 250 feet.

Prowers County

Trojan Oil & Gas Co.'s No. 1 Lotus Oil, NW NE NE Section 15-23-46, Lamar district, is drilling at 3,833 feet in lime.

Pueblo County

Hartman Syndicate's No. 1 Hartman, NW cor. Section 31-22-61, Fowler district, began spudding July 23 in 10-inch hole with Keystone rig. This test may be described as a hope long deferred. Twenty-five years ago a number of ranchers took up homesteads in the district 10 miles southwest of Fowler. They carried the land to patent, but farming could not be made to pay. It is a barren prairie desert country. The homesteaders all moved away and no one now lives within miles of the location. However, the owners have continued to pay taxes on the land. Some of them got together re-recently and contributed leases for a well. They hope to get gas, oil or water, it doesn't matter which, just so it is something. If none of these are found it is planned to abandon the land rather than continue paying taxes. There is no evidence of structure at this location, but the formations rise rapidly toward the west and it is very probable that an artesian water well will result. The water may save the farmers' property.

Routt County

Texas Co.'s No. 8 Quaintance-Hocking, NE SW NE Section 18-6n-86, Tow Creek, is drilling at 1,010 feet in shale.

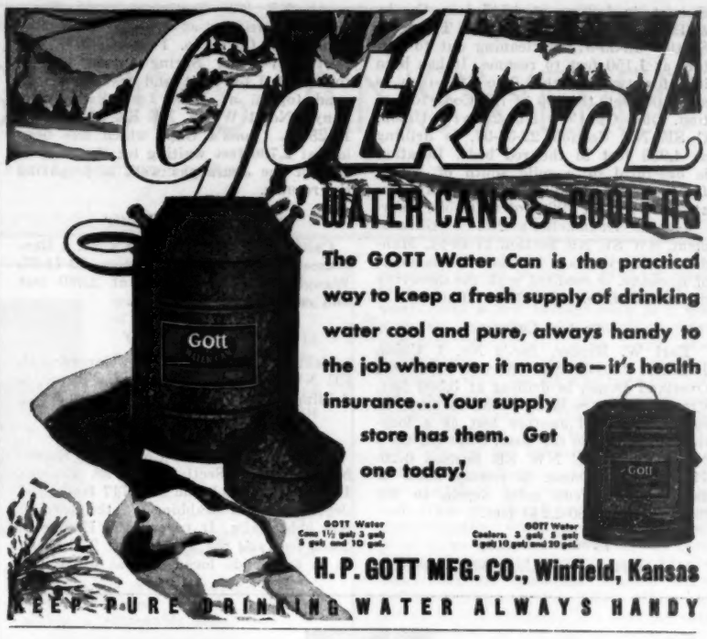
WYOMING

Albany County

California Co.'s No. 1 Holst, NE SE SE Section 13-17-77, Quealy Dome, is drilling at 500 feet.

Big Horn County

W. O. Taylor and others' No. 1 Hoskins, SE SE Section 25-56-97, Byron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district, is drilling at 4,545 feet. Crosby & Huntington's No. 1 Denio, Tract 43, Section 15-55-97, is cleaning out to bottom at 1,150 feet to resume. It has been idle for two months. The 12½-inch is at 1,100 feet, the top of the Cody formation. Ohio Oil Co.'s No. 2 Byron-Union, C SE NE Section 22-56-97, is drilling at 4,933 feet in the red beds. Location is one-third of a mile south of No. 1 Byron-Union, completed in the Amsden at 5,514 feet in 1926 for 600 bbls. daily.

Jerome Drumheller's No. 1 Government, SW SE NE Section 17-49-91, Manderson district, is a location. Drumheller, of Spokane, is credited with the discovery of the Cut Bank oil field in Montana.

Carbon County

Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, is drilling at 5,500 feet. Preparations are being made to move in rotary and drill another test at a location 1,000 feet to the west. Ohio Oil Co.'s No. 1 Morris, C NW SE Section 6-20-77, Diamond Dome, is testing show of gas at 2,641 feet, total depth, in the Shannon at 1,980-2,240 feet.

Fremont County

Mid-American Oil Co.'s No. 1 Government, NE SW Section 4-28-92, Sheep Creek, is drilling at 3,440 feet. Monongahela Oil Co.'s No. 1 Jones, NW cor. Section 7-28-92, Spring Creek, is bottomed at 1,136 feet and testing gas in sand topped at 1,104 feet. Same company's No. 1 Wisda, NE SE SE Section 13-28-93, Crook's Gap, which has been idle at 2,790 feet waiting for the completion of the Jones gas well, is preparing the resume.

Hot Springs County

California Exploration Co.'s No. 1 Government, NE SE NE Section 12-44-97, Waugh Dome, is drilling at 2,389 feet and carrying the 10¾-inch.

Lincoln County

Senrab Oil Co.'s No. 1 Government, SE NW Section 10-26-113, La Barge, is drilling at 600 feet.

Park County

Stanolind Oil & Gas Co.'s No. 6 Rosenberg, NW cor. Section 25-58-98, Frannie Dome, is a completion at 2,747 feet, total depth, and is swabbing at the rate of 300 bbls. daily. It topped the Embar at 2,650 feet and the Tensleep at 2,713 feet. It is an inside location. Val M. Kirk's No. 2 Kirk, SE SW SW Section 24-58-98, is drilling at 2,461 feet.

Paul Stock's No. 2 Government, SW SE NE Section 29-51-100, Oregon Basin, is a completion at 3,589 feet and is making a swabbing test. It looks like a good well. It is a west offset to his No. 1, which made 450 bbls. initial. Dry Creek Oil Co.'s No. 1, NE SW Section 9-50-100, is drilling at 1,100 feet and carrying the 8¼-inch.

Natrona County

Sinclair-Wyoming Oil Co. has begun deepening three more wells in the Salt Creek Field. All of them are drilling through the second Wall Creek. Their locations are as follows: No. 5, NE SE NW Section 19-40-78; No. 5-A, NE SE SE Section 30-40-78, and No. 6-F, N SE NW Section 19-40-78.

Sheridan County

Sheridan Syndicate's No. 1 Allison, SW SE Section 15-55-85, Beaver Creek, landed the 8¼-inch at 2,050 feet and is shut down for the 6⅝-inch.

Sublet County

Calmonica Petroleum Co.'s No. 17-3 Elkhorn, NW cor. NE Section 17-27-113, La Barge district, is drilling at 1,600 feet.

Sweetwater County

Wyoming-California Petroleum Co.'s No. 2 Union Pacific, SE NW SW Section 11-16-104, South Baxter Basin, is a completion for 8,000,000 feet of gas a day from the Frontier at 2,514 feet, total depth. The company plans to start another well by April 1, 1935, on Section 20-16-104.

Weston County

Two new operations were reported in the Osage Field in Walter Bradley's No. 1 Schuler, NE cor. SE Section 31-46-63, a location, and Irene Eaton's No. 14, CSL NE SW Section 30-46-63, which is rigging up. Conway Oil Corp.'s No. 1 Government, NW Section 19-41-61, Dewey district, is drilling at 417 feet with the Madison at 2,600 feet as the objective.

MONTANA

Glacier County

Operations in the Cut Bank Field were slowed down by a snow storm. Two completions and one new location were reported.

Texas Co.'s No. 5 Hinkle, C NE NE Seciton 2-34-6w, swabbed 191 bbls. the first 24 hours at a total depth of 2,810 feet, and the Grant Oil Co.'s No. 2 Yunck, C SW SW Section 14-34-6w, swabbed 60 bbls. first 24 hours from the pay at 2,915-19 feet after standing 40 hours, and thereafter 25 bbls. a day.

The new location is R. C. Tarrant's No. 3 Miller, CEL NE NE Section 24-34-6w, which is rigging up.

Consolidated Gas Co.'s No. 2 Ewing, SE SE Section 34-36-6w, is drilling at 2,795 feet. Fisk and others' No. 1 Harper, C NE NE Section 21-34-6w, formerly carried as Craig & O'Neil, is drilling at 85 feet. Lon Crumley's No. 1 Jones, C NW SE Section 31-34-5w, is drilling at 2,265 feet.

Fulton & Nadeau's No. 2 Haggerty, C NW NW Section 15-34-6w, is bottomed at 2,951 feet and cleaning out cavings at 2,808 feet.

Hannan-Porter Co.'s No. 2 Britton, SW NE NE Section 23-34-6w, is drilling at 440 feet.

Indian Oil Co.'s No. 1 Reickhoff, SW SE Section 3-34-6w, is drilling at 940 feet, and its No. 2 Winkler, W SW SW Section 23-35-6w, is fishing at 2,585 feet.

R. C. Jeffries' No. 1 Lukens, C SE SE Section 1-33-6w, is spudding at 175 feet.

Lawler & Hoer's No. 2 Harland, C NW NW Section 8-33-5w, is drilling at 550 feet.

Montana Headlight Oil Co.'s No. 3 Yunck, W SW SW Section 1-34-6w, is drilling at 1,850 feet. Montana Power Gas Co.'s No. 1 De Zort Unit, 700 feet north of CSL, Section 23-35-5w, is drilling at 2,715 feet, and its No. 1 Gaines, C NW NE Section 6-33-5w, is rigging up. Same company's No. 1 Sheuren, C SW SW Section 21-33-5w, is running the 10-inch at 1,800 feet to stop caving.

Olive Oil Co.'s No. 2 Winkler, W NW NE Section 35-35-6w, is drilling at 970 feet.

Santa Rita Oil & Gas Co.'s No. 4 Cardwell, NE NE Section 22-35-6w, is drilling at 1,930 feet, and its No. 4 Tribal, C N half SW Section 15-35-6w, is bottomed at 2,250 feet and trying to drill by tools.

R. C. Tarrant's No. 2 Getty, NW cor. SE Section 2-34-6w, is trying to drill by tools at 2,700 feet, and his No. 5 Haglund, Jr., C SW NE Section 13-34-5w, is drilling at 390 feet. His No. 1 State, C SE SE Section 36-34-6w, is drilling in cavey ground at 2,570 feet. Texas Co.'s No. 1 State, 527-30, C SE NE Section 36-34-6w, is drilling at 2,435 feet, and its No. 1 Jones, C NE NE Section 6-33-5w, is drilling water well. Same company's No. 1 Hessler, C NE NW Section 20-33-5w, is fishing for tools at 2,961 feet. It had a show of oil at 2,959 feet. The 7-inch is 25 feet off bottom. Texas Co.'s No. 5 Purdy, NE NW NW Section 35-35-6w, is shut down at 300 feet, where the 10-inch was set.

Watson and others' No. 1 Simero, NE SW NE Section 1-33-6w, is drilling at 1,250 feet.

Carbon County

Ohio Oil Co.'s No. 14 Maddox, C NW NW Section 10-7s-21, Dry Creek, is coring at 5,905 feet, probably several hundred feet below the Dakota.

Cascade County

Charles Merz and others' No. 1 Betts, SW SE Section 34-18-4e, Coal Ridge, is drilling below 600 feet.

Liberty County

John Wilde's No. 2 Mahoney, W SW SE Section 23-37-4e, Whitlash district, lost the hole below 210 feet and skidded rig to CWL SE SW of the same section where No. 2-A is spudding. Western Natural Gas Co.'s No. 3 Shaffer, SW SE Section 14-37-4e, is straightening a crooked hole at 300 feet.

J. H. Hamilton and others' No. 1 Northern Farms, C NE SW Section 10-37-5e, Flat Coulee, is underreaming the 10-inch at 1,565 feet.

Toole County

C. Leonard Smith's No. 1 Eckholt, C SE Section 6-33-2e, Devon district, is temporarily abandoned at 500 feet, and his No. 1 Halverson, C NE SE Section 18-33-2e, is temporarily abandoned at 175 feet. His other wells are standing.

One completion was reported in the Kevin-Sunburst Field in the C. C. Operating Co.'s No. 1 Fryberger, SE cor. SW Section 24-35-2w, which is estimated at 50 bbls. at 1,601 feet. A. Beardsley's No. 3 Swears, C SE NW Section 9-35-2w, set the 8¼-inch at 860 feet. Bi-State Oil Co.'s No. 2 Haemel, E SE NE Section 3-34-1w, is drilling at 967 feet. Engelking-Pfabe's No. 6 Seabrook, C NW NE Section 30-35-2w, had a show of oil at 1,524 feet, total depth, and is trying to make a well out of it by treating with acid. Imperial Petroleum Co.'s No. 14 Bluhm, SW NE NE Section 19-35-1w, is drilling at 970 feet, and Potlach Oil & Gas Co.'s No. 4 fee, S SE SE Section 21-34-1w, set pipe on top of the Sunburst at 1,155 feet. E. R. McKee's No. 8 fee, NW SW Section 19-35-1w, is drilling at 1,400 feet.

Stillwater County

Continental Oil Co.'s No. 1 Orr, SW NW SE Section 18-5s-17, Dean-Ingersoll district, is drilling with rotary tools at 800 feet in a 4,000-foot test.

The oil conservation board of Montana on September 19 adopted new rules defining "stripper wells" as follows:

"All wells on any lease having daily average production of oil per well on such lease of the certain amount, or amounts, to-wit:

"Five barrels or less if the depth of

(Continued on Page 80)

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TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the question is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Properties of Benzol as Related to Use For Motor Fuel

Will you kindly give us the chemistry of benzol as related to the specifications of benzol to be used for blending with gasoline?—C. T. N.

There are two great divisions of what are known as carbon compounds; these are the hydrocarbons that are related to petroleum, the simplest of which is methane, and those that are especially abundant as the derivatives of coal tar, the simplest of which is benzene, the commercial product being known as benzol. Methane, CH_4, is the foundation substance for a large group of compounds called paraffin hydrocarbons. In a similar way benzene, C_6H_6, is the primary compound for the group known as aromatic hydrocarbons.

Pure benzene, C_6H_6, is a liquid composed of hydrogen six parts and carbon six parts, boiling at 176° F., freezing point 41.9° F., specific gravity 0.8784, (29.6 A.P.I.), weight per gallon 7.3 pounds. The technical or commercial grade (benzol), usually containing 85 per cent or more benzene, begins to boil close to 176° F., and should all distill below 330° F., with about 90 per cent distilling below 212° F. Heating value about 18,000 B.t.u. per pound.

The impurities are 8 to 10 per cent toluol, 3 to 5 per cent xylol and related hydrocarbons. Sulphur is the most objectionable impurity and may be present to the extent of 2 per cent. Gums are frequently found in benzol, sometimes so much as 200 mg. per 100 ml. Toxic substances, such as nitrobenzene and aniline may be present. Impurities should be limited through specifications and adequate inspection.

The weight and heating value requires carburetor adjustment when benzol is used in large quantities for motor fuel. The float level must be lowered and the air increased to furnish the proper volume of liquid and supply enough air for complete combustion. The high boiling point and freezing point are not favorable for winter use. The blend with gasoline to a large degree overcomes these objections to low volatility and freezing temperature.

The chief source is as a by-product in the manufacture of coke from coal, so the quantity of benzol to be available must depend upon the quantity of coke made. The volume produced is small, being equivalent to less than 1 per cent of the gasoline marketed, so the price remains high, usually about the same or higher than gasoline.

Benzol burns slower than gasoline and tends to reduce the combustion knock. For this reason it has been in demand as an antiknock material for mixing with gasoline. It was the first antiknock substance to be used in this way, but the limited supply and high price has prevented it from being more generally used. The quantity blended with gasoline may vary, the usual proportion being 20 to 60 per cent of the mixture. The quantity blended with gasoline is influenced by price and the tax on motor fuel.

An important consideration that should not be overlooked in connection with the use of benzol for motor fuel is that the raw material shall be of sufficient purity so that when blended in the desired proportions with gasoline the product will meet the Federal and state specifications for motor fuel. These are the distillation requirements, gum, sulphur, corrosion and doctor sweet. The corrosion test is made to give no color on a copper strip or in a copper dish; the gum test is usually that made in a copper dish; total sulphur in most instances cannot exceed 0.1 per cent, and the product shall be negative to the sodium plumbite or doctor solution.

Liquids Used For Confirming Absolute Viscosities

We shall appreciate references concerning the standard liquids that may be used when confirming absolute viscosity determinations. We especially desire to know the concentration of the solutions of sugar that are used for this purpose.—P. S. L.

The method developed by Poiseuille, known as absolute viscosity, is a scientific method of measuring the rate of flow of a liquid through a capillary tube under known conditions of temperature and pressure. It may be defined as the force that will move one square centimeter of plane surface at a speed of one centimeter per second relative to another plane surface from which it is separated by a layer of the liquid one centimeter thick. The value is therefore expressed in dynes-second per square centimeter or simply as dynes per square centimeter.

The unit Poise has been derived from the name of the original investigator, Poiseulle, and means one dyne-second per square centimeter. An absolute viscosity of one poise would be fairly high, so to provide for low viscosities the centipoise is used; this means one-hundredth of a poise.

Water at 20.2° C. (68.36° F.) has an absolute viscosity of one centipoise, or 0.01 poise. Rape oil at 19° C. (66.2° F.) has a viscosity of about one poise.

Bingham and Jackson in U. S. Bureau of Standards, Bull. 298, 1917, give the absolute viscosities of sugar solutions of different percentage strength and at different temperature. A part of their data is shown here.

VISCOSITY OF SUGAR SOLUTIONS
(Centipoises)

Temp. °C.	—Sugar, per cent by weight— 0	20	40	60
0	1 789	5.304	14 77	233
5	1.516	3 154	11.56	156
10	1 306	2 652	9.794	109.8
20	1.005	1.960	6 200	56.5
30	0.802	1.564	4.382	33.78

Fortsch and Wilson, in Ind. Eng. Chem., 17, 291, 1925, describe the use of the Saybolt Thermoviscometer for measuring absolute viscosity. They calibrated the instrument with petroleum ether, acetone, cleaner's naphtha, carbon tetrachloride, water, kerosene and aniline.

One of the early instruments used in the United States for the determination of viscosity of oils was the Dudley pipette, which was standardized at 25° C. against a solution consisting of 120 grams of pure cane sugar in 100 c.c. of water. This solution should show a viscosity of about 100 seconds at 52° C. when run in the pipette.

Additional references: Vogel; Zeit. angew. chem. 561, 1922. Herschel; U. S. Bur. Stand. T.P. 100, 1917 and No. 112, 1919. Chechot, Cong. Intl. pour l'essai materiaux. 1927, vol. 2, 447.

Plants For Making Laboratory Gas From Gasoline

In the September 13, 1934 issue there was a brief discussion of the principles involved when making gas from gasoline. Several descriptions have been forwarded for the further advice of J. V. The details given below will be of interest.—Editor

The writer while operating a refinery in West Texas a year or so ago was confronted with the same problem of supplying gas for the laboratory, which could be used for making distillations and flash and fire tests. The refinery was so located that natural gas could not be obtained without an expenditure of several hundred dollars, so the problem was finally solved in the following manner:

Air was available from a small automatic filling station compressor which was used for furnishing air to the air actuated temperature controllers on the fractionating towers. A one-half inch line from the air compressor storage tank was connected with a 55-gallon I.C.C. drum which was approximately 50 feet from the laboratory. The drum was placed on a small rack about 18 inches off the ground. The inlet of the air to the drum was controlled by an oxygen regulator that was picked up at a junk shop at a cost of $5. This regulator was set so the pressure would be 15 pounds in the drum. The drum was charged with a 64 A.P.I. gravity sour gasoline, a product of the plant.

Outlet for the gas was provided through a quarter-inch line to the laboratory. A small reducing valve was placed on this line, regulating the outlet pressure at 7 pounds. This reducing valve was one salvaged from an old temperature controller. The gas line after reaching the laboratory was reduced to one-eighth inch at the distillation booth, and one-eighth inch angle needle valves used to regulate the gas to the burners. This arrangement provided sufficient gas for running five distillations and two flash and fire tests at one time.—D. L. W.

All that is necessary is a high grade gasoline, an air supply, a cylinder made from 8-inch diameter pipe 4 feet in length, and a few fittings such as a low pressure regulator, relief valve, pressure indicator, three-quarters or 1-inch pipe and valves. The cylinder of pipe is connected with the air line near the bottom, the cylinder being placed in a perpendicular position. The outlet for the gas at the top leads to the laboratory feed line for the burners.

In the manufacture of the gas for this size container not over 1 gallon of the high grade gasoline is used. A gasoline of approximately 64-66 gravity, 375 endpoint is to be preferred. However, most any good grade of gasoline will do, the high endpoint gasolines leaving more residue, which may be drawn off at the bottom of the cylinder. The gasoline may be poured in at the top of the cylinder by means of a connection containing a valve. Best results are obtained by carrying not over 5 pounds pressure on the cylinder of this size. The regulator can be set for this pressure or a little higher if all the burners are going. The source of air may be a gasoline or steam driven air compressor of the type usually found around filling stations if other air is not available.

Bunsen or Fisher type burners must be covered with a wire gauze of about the mesh of fly screen. A very small amount of air is required for the burner. The burners can of course be suitably adjusted by the operator.

An 8-inch by 4-foot cylinder with 1 gallon of 64-66 gravity, 375 endpoint gasoline will under ordinary conditions produce enough gas for four burners of the Bunsen type to operate 24 hours.—R. E. G.

Stopping Leaks in Small Tanks Used For Gasoline Storage

Will you kindly suggest formula or method for stopping leaks in the bottom of a galvanized tank for storage of gasoline? Have heard of dope that works but cannot locate it.—A. M. L.

It is not good practice to temporize with a leaking tank, especially one used for the storage of gasoline; it is usually better to replace a small tank. Any metal tank that is in contact with the ground is liable to corrosion resulting in numerout holes, caused by materials in the earth and electrolysis, of the pin-hole type extending over a considerable area. Galvanized iron will often corrode very rapidly when it is in contact with moist earth, or set so that moisture will collect under the bottom. Another factor is the water distilling over with the gasoline, or from the treating unit, may contain sulphur. This collects on the bottom of the tanks and is highly corrosive, because such water often contains sulphuric acid.

When the tank can be emptied and thoroughly ventilated, to free it entirely from hydrocarbon vapors to remove the explosion hazard, it may be soldered or welded if the source of the leak is such to permit this treatment.

Temporary repairs are sometimes made by the use of cements. All water must be removed. Powdered gelatin mixed with hot glycerin to make a thick liquid and applied to the clean and dry surface, then protected until hard is suitable for dry gasoline. Another thick paste, used in a similar way, contains precipitated chalk in liquid sodium silicate. The paste made by adding glycerin to litharge is considered very good.

NATURAL GAS DEVELOPMENTS

Companies in California Buy More Natural Gas

California's natural gas distributing companies have bought more natural gas in 1934 than in any preceding year. The increase is ascribed to the placing of new distributing areas on the lines and to the consumption of gas for fuel in steam generation activities of electrical installations.

Calculated on the showings of the three largest units in the natural gas distribution business, the utilities in the first half of 1934 were about 9 per cent behind the like 1933 period in the amount of gross from gas operations, although they were moderately ahead of both 1932 and 1931. So greatly is the annual result affected by both seasonal and abnormal temperature fluctuations that the half year is no criterion for full results.

During the last four years, natural gas sales at the field in the first seven months of the year have averaged between 53 and 57 per cent of the year's total sales. If somewhere near the same ratio applies this year, it can be expected that this year's gross receipts of gas producing companies—largely major oil companies — somewhere between $11,500,000 and $12,000,000.

Taken from the primary natural gas production and utilization side, natural gas in California seems to have held a relatively fixed level for more than two years. The years 1929 to and through 1932 were largely of correctional and development character in which a stop was put to enormous wastes and facilities for marketing natural gas were largely extended. During this time the price of natural gas at the field has been fairly steady. While there is considerable variation in types of purchase contracts, the average cost of gas to major utilities at the source of supply has averaged not far from 7 cents per 1,000 feet. Upon this basis as an average, the utility purchasers of gas in California in the first seven months this year paid about $6,800,000 for the supply taken against around $6,500,000 in the like 1933.

TRADE COMMISSION INQUIRY

WASHINGTON, D. C., Oct. 1.—Attention is directed to the growing importance of the natural gas industry in the interim report of progress in its power and gas utility investigation sent to the Senate by the Federal Trade Commission, which says:

"Much of the work under the extension of the investigation to January, 1936, will be devoted to an examination of pipe line companies engaged in the transmission of natural gas, and their associated producing and distributing companies. The national importance of the natural gas industry is apparent when it is realized that it is already delivering to the public several times more energy than that represented by the entire commercial supply of electric energy, and that interstate pipe lines from the natural gas fields deliver gas to nearly every metropolitan area east of the Rocky Mountains except in New England and a few southeastern states. There are also extensive natural gas fields and pipe lines in the Pacific Coast states.

BORDER CITIES GAS RATE

WINDSOR, Ontario, Sept. 29. — The Sandwich West council this week approved a new and reduced rate schedule offered the Border Cities municipalities by the Windsor Gas Co. The rate has now been accepted throughout the Border Cities area.

Three Dusters in New York Gas Field; Clarion County Leads Pennsylvania

WELLSBORO, Pa., Oct. 1.—Three wells were completed as dusters and abandoned in the Allegany and Ontario Counties shallow fields in New York in the week ending September 28. One of these was a deep test to reach the Oriskany pay sand on the Robert Clark farm, Independence Township, Allegany County. Belmont Quadrangle Co. got the top of the sand at 5,042 feet and began pulling casing when salt water killed the small show of gas at 5,050 feet. However, good wells have been completed in this area by Empire Fuel & Gas Co.

Geneva Gas Co. abandoned its Rice Brothers farm well in Geneva Township, Ontario County, at 1,380 feet, and its Pryor well, Junius Township, same county, at 925 feet. In the latter well the Niagara was found at 757-907 feet.

There are seven wells drilling and one new location in this New York territory. Homestead Oil & Gas Co. is down 2,140 feet on the John Gregg farm, Briston Township, Ontario County, where the Niagara was found at 2,100 feet. In the same county, Phelps Township, Geneva Gas Co. is drilling at 125 feet on the Stewart Nurseries property. Trumbull, in Galen Township, Wayne County, is down 2,270 feet on the Ethel Arnold farm. On the Costom farm, Greenwood Township, Steuben County, Belmont Quadrangle Co. is drilling at 3,990 feet. In this well the Tully was reached at 3,819 feet and the Elk at 2,017 feet. In the same township, Wittmer Oil & Gas Co. was drilling at 3,310 feet on its Terrence-O'Horrigan well. The Elk was reached at 2,286 feet. Hadley and Rogers are spudding on the Cato Bank property, Conquest Township, Cayuga County. Belmont Quadrangle Co. is drilling at 700 feet on the Frank Whelan farm, Rading Township, Schuyler County. Empire Oil & Gas Co. has a new location on the Dean estate, Alma Township, Allegany County.

Pennsylvania Operations

Speechley sand operations in Clarion County figure as the only good shows of gas for the week in Pennsylvania, with the Potter-Tioga County work showing no completions in the Oriskany sand. In Clarion County, Alum Rock Gas Co. reached top of the pay sand at 2,082 feet on their Bank Lot well, Highland Township, and recorded an initial of 203,000 feet daily from 6 feet of sand. This company also got a flow of 40,000 feet at its Hillard well, Perry Township, same county. The top of the Speechley was reached at 2,255 feet, and the bottom at 2,288 feet. Pay was from 2,270-71 feet and 2,270-73 feet.

Kelley and others on the Korb and Beary farm, Washington Township, Clarion County, were in the slate at 360 feet. C. H. Weaver, on the Mary Ditz farm, same township, was fishing at 1,900 feet. Fryburg Motor Co., on the McCloskey farm, Farmington Township, same county, was in the slate at 350 feet, and C. E. Jeannerat, on the Bartlett farm, Piney Township, same county, was rigging up.

Oriskany Operations

Mutual Natural Gas Co. was shut down at its Presbyterian Church well in Farmington Township, Tioga County. E. Cabot, rigging up on W. F. Burroughs farm, Gaines Township, same county, and new location on John Stiles farm, Clymer Township, same county. East Penn Development Co. is building rig on Roscoe Kemp farm, Farmington Township, same county.

Hanley and Bird are drilling at 5,445 feet on their No. 2 S. Gooch, Allegany Township, Potter County. In Hector Township, same county, P. P. & L. Co. is fishing at 5,269 feet on the Clair Doty farm. Cunningham Natural Gas Co. is drilling at 4,180 feet on the George Carroll farm, Oswayo Township, same county. Bayliss is drilling at 5,116 feet on its No. 1 Estes, Genesee Township, same county. United Producers has shut down temporarily at 5,250 feet on its No. 2 M. Wilsey, Hebron Township, same county. Stocum and others is drilling at 2,150 feet on the J. W. Wells farm, Allegany Township, same county, and Electro Geometer Co. is down 1,826 feet on the Katherine Currier farm, same township.

Hebron Operations

In Hebron Township, the following developments were reported: Pennsylvania Power & Light Co. was down 310 feet on the Chloe Kenyon farm. Penn United was rigging up on the Burt and Lyman farm. Lycoming was building rigs on the W. B. Hemphill and W. White farms, and was shut down temporarily at 507 feet on the O. W. Greenman farm. This company was also rigging up on the R. and G. Carmer farm. Sylvania Gas Corp. was moving in for its No. 2 Higley.

In Genesee Township, same county. Bayliss was building rig on the Earl Pye farm. Tioga Natural Gas Co. was shut down temporarily at 4,685 feet on its No. 1 Emporium Bank, Shippen Township, Cameron County, and at 4,470 feet on its No. 2 Emporium Bank, same township. Columbia Carbon was drilling at 3,480 feet on the C. Campbell farm, Ridgebury Township, Bradford County. In this well the Tully was found at 3,047-3,145 feet.

EDMONTON OPTIONAL RATE

EDMONTON, Alberta, Sept. 29.—Following the introduction of a new optional gas rate for domestic consumers, Northwestern Utilities, Ltd., has offered an optional rate schedule for commercial and industrial use, based on an annual contract. The proposed rate is: First 1,000 feet per month, $1.90; next 1,000 feet, $1; next 98,000 feet, 25 cents per 1,000; next 900,000 feet, 24 cents; next 500,000 feet, 22 cents; all over 1,500,000 feet per month, 17 cents. With accounts not paid by due date, an additional 2 cents per 1,000 feet will be charged.

The optional rate, representing an estimated 12½ per cent reduction, will be available where natural gas is the major fuel for space heating and to consumers whose annual consumption is not less than 3,000,000 feet with not less than 40 per cent of the total in the May-October period. The rate runs from year to year and may be terminated on 30 days' notice.

REDUCE ATCHISON RATE

TOPEKA, Kans., Oct. 1. — Homer Hoch, chairman of the State Corporation Commission, has announced formal approval of reduced gas rates for Atchison, filed by the Kansas Power & Light Co. Mr. Hoch said the reduction would save gas users of the city approximately $20,000 annually. The new rates are $1 for the first 1,000 feet monthly, 80 cents per 1,000 feet for the next 5,000 feet and 50 cents per 1,000 feet for the next 24,000 feet. The reduction was approximately 12½ per cent, Mr. Hoch said.

Getting Rid of Insect Pests With Gas Torches

In Washington County, Ohio, truck farmers have been ridding their crops of insect pests by using gas torches. The torches are made by running a 1-inch gas line across the center of a field, parallel with the row of plants. "Tees" are placed in the line at intervals of 100 feet, and in each tee there is an upright piece of pipe about 6 feet in height with a perforated plug in the top. A low gas pressure is kept on the line and the burners are lighted each evening at dusk. Practically all types of egg-laying moths are attracted from the field by the lights and are quickly destroyed in the flame.

Very few farmers had previously used natural gas, until twenty prominent growers decided to install gas torches in their fields. From three to ten torches were used on a farm, and the fuel outlay in many cases did not exceed $1 per month. The torches were used through the growing season, which extends from May until August, and before the summer was over the farmers were reporting excellent results. Damage by insects, especially in tomato fields, was greatly reduced, and there was a marked saving in labor and time.

Oil and Gas Discussions at Canadian Institute

CALGARY, Alberta, Sept. 29.—More than 200 delegates attended the annual meeting of the Canadian Institute of Mining and Metallurgy held here recently. President S. G. Blaylock occupied the chair, and the delegates were welcomed by R. G. Reid, premier of Alberta and Mayor Andrew Davison of Calgary.

Papers read included "Recovery of Natural Gasoline in Alberta" by C. W. Dingman and S. G. Coultis; "Natural Gas in Alberta" by S. E. Slipper.

Dr. R. C. Wallace, president of the University of Alberta, urged the need and importance of scientific research work in connection with mining and oil development, at the annual banquet. He forecasts industrial development as a result of the oil and gas resources in Alberta, citing the possibility of the production of benzene, methyl alcohol and carbon black from Turner Valley gas. Of special interest to the oil industry was a paper by R. M. S. Owen on the Ranchmen's Oil & Gas Co. test for oil on the Aldersyde structure.

Many of the delegates visited the Turner Valley Field. At Banff National Park the delegates attended the unveiling of a memorial to the pioneer Canadian geologist, Donaldson Bogert Dowling of the Geological Survey of Canada, who was a member of the institute from 1904 till his death in 1925, and president in 1918-19.

MOBILE GAS COMPANY

MONTGOMERY, Ala., Oct. 1. — The Alabama Public Service Commission has taken under advisement a new plan of organization for the Mobile Gas Co. estimated to reduce the company's book value by $1,000,000, or one-third, and effect a saving of $150,000 annually in interest charges.

The plan was submitted by the Mobile Gas Service Co. which intends to take over the operation of the company now in receivership. This proposed reorganization has been in litigation for more than a year. Hugo White, commission president, said the case would be expedited.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confroat them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depths of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimate of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Watchful Care Can Prevent Much Deterioration of Pipe Lines

It seems to me that much of the deterioration of pipe lines might be prevented by a more general knowledge of the conditions that cause corrosion and then keeping a closer watch on the line to see whether these conditions are developing anywhere. Can you tell me what conditions calculated to start corrosion of a pipe line are recognized by engineers? I would be glad to have some suggestions along the line of reducing pipe line deterioration.—H. T. E.

Much can be done toward preventing or checking corrosion of pipe lines, as is shown by the following answer to your question, provided by W. G. Heltzel, general superintendent of the Stanolind Pipe Line Co.:

"Many oil leaks from corrosion can be prevented if the field men, especially the linewalkers, are trained in a practical way to observe and report condition which may result in the corrosion of the lines. In our company, the field men, from the superintendents to the linewalkers, are coached concerning the practical corrosion problems and trained to observe conditions along the line. Linewalkers have been provided with an A-B-C instruction paper on corrosion of pipe lines and told in simple language the miscellaneous causes of corrosion along a pipe line. Each linewalker is provided with a note book to record his observations and report them to his connection foreman.

"An important part of a maintenance program for oil pipe lines is an inspection of the trunk lines where they cross water courses, streams and creeks, also in the banks of the creeks. Such a program is warranted because repair jobs in such places can be done only under favorable conditions; otherwise, the jobs might be expensive and, in addition, a large loss of oil and damage might occur. An emergency repair job done at such places during unfavorable conditions may result in a long shutdown.

"Records and experience indicate that corrosion of the lines can be expect d under the following conditions:

"1. Old oil leaks.

"2. Natural soil corrosion: (a) Alkali soils. (b) Tight soils that hold moisture such as clays and gumbo. (c) Marsh and swamp land. (d) Drainage or water courses and ditches. (e) Fills or dumps of mixed soils. (f) Creeks and creek beds. (g) Ponds. (h) Any condition which subjects line to alternate wetting and drying.

"3. Oil or gas field refuse: (a) Salt water areas. (b) B.s. ponds. (c) Slush pits.

"4. Acids: (a) Cinder fills. (b) Refinery waste. (c) Barnyard drainage. (d) Hog pen drainage. (e) Sewage disposal. (f) Mine and smelter drains or dumps. (g) Dumps or rubbish.

"5. Decaying vegetation: (a) Wood thrown in pipe line ditch. (b) Tree stumps and roots in pipe line ditch. (c) Any foreign material in ditch. (d) Old straw or hay stacks. (e) Manure piles.

"6. Artificial: (a) Road crossings and road ditches. (b) Railroad rights of way and barrow pits.

"7. Electrolytic: Stray electrical currents from electric railroads or from other pipe lines may cause severe corrosion.

"Oil leaks result in corrosion and a high percentage of pipe line repairs. If a leak occurs in a soil of tight texture and the drainage is poor, a serious corrosion of the line will occur within a period of four to seven years. Unfortunately many small leaks from couplings never come to the surface of the ground and there is no way of anticipating the corrosion from this class of leak. However, it is the practice of most pipe line companies to remove oil-soaked ground from the ditch and replace it with uncontaminated soil."

East Texas Is Just Another Pool to the Petroleum Geologist

Is there any other shore-line pool than East Texas? If so, where is it and under what circumstances was it discovered? Is there any known method of locating shore-line pools other than drilling? Can a shore-line pool be located with seismographic instruments? From the fact that East Texas is a shore-line pool, does it not stand to reason that there are other shore-line pools in the United States? Would you make any suggestions as to what a geologist should look for if he were trying to find a shore-line pool?—H.G.K.

To answer these questions fully would require a more extended excursion into geology than is possible here. In general most oil pools are found in old sand beds deposited in either the beds of large bodies of water or in old river channels, so the conditions in East Texas are not essentially different from those found in other areas.

The publicity given East Texas has fixed this term "shore line" in the mind of the public, but to the geologist East Texas is just another pool and it is believed probable that other pools of like character will be found.

To find hidden pools the geologist now relies largely upon geophysical instruments and many parties are exploring the Woodbine sand basin of eastern Texas by this means. Several new pools have been opened within this area and they have been reported as found in The Oil and Gas Journal.

If you are seriously considering exploring for oil fields it is suggested that you engage the services of competent geologists and then allow them to proceed in their own way, for it is hardly within the province of the layman to instruct men who make this line of work their business.

Hard to Repair Damage Done, But Preventive Steps Possible

I am having serious trouble at several of my wells that lie close to a small river here as a result of dirty water leaking into open casingheads when the stream overflows its banks. Some of the wells seem to be absolutely ruined, production having stopped entirely. In the others the production has fallen way off. I have tried cleaning out, but I get practically no results from that. Is there anything I can do to remedy this situation?—T. E. S.

Your problem, as above stated, indicates that you need first of all to repair the surface string of casing to prevent mud and water from having access to your wells. This may be done by cementing behind the surface casing, either forcing the cement grout down from above or by pulling all inside strings and plugging the well below the casing seat for the surface string and then proceeding to cement back of the casing by approved methods such as applied by oil well cementing companies.

If this water flows into the top of the casing and you have not been able to find tight fittings with which properly to close the upper end of each string of casing and tubing in the well then the only thing to do is to raise the casing well above high water level so that the river at flood stage cannot flow over the upper end of the pipe.

You have tried cleaning out and it is hard to recommend further methods if the usual ones have failed. There are suction-type bailers on the market that will remove all of the material from the bottom of the hole, but this does not assure you that mud and water forced back into the formation will find its way into the bottom of the hole and relieve the formation.

If the well is in a limestone formation it is suggested that acid be used, but recommend that you do not try to apply this acid yourself but rather that you get the services of experts, with equipment and experience to do the work.

There is not much that can be recommended to remedy the damage already done but it is believed you can do much to protect your unharmed wells and if the suggestions given are followed they probably will prevent the flooding of any additional wells. Once this slimy flood water enters the hole there is great danger that the formations will be plugged.

The weight of a column of water is .434 pounds per foot of height and the pressure exerted will be 43.4 pounds for each 100 feet of well depth. If the well is 1,000 feet deep the muddy water in the hole will exert a pressure of about 434 pounds per square inch against the face of the formation.

Assuming that the formation pressure is only 350 pounds, there will then be a differential in favor of the water column of about 84 pounds. This weight of fluid column tends to force the muddy water back into the pores of the formation and the solids will precipitate and plug the pores. This damages the well.

Another feature to be considered in connection with this condition is the settling to the bottom of the hole of the solid material in the muddy water. Flood streams carry high percentages of fine solid particles, some of them miscroscopic and actually small enough to enter the minute openings in the producing formation. They flow into the pore space with the water, but as this moving fluid loses momentum the solid particles drop out and the water may move on still further back into the pore spaces in the stratum.

After this plugging action has taken place the well is in poor condition to produce again because it first must force the water toward the bottom of the drilled hole and the water is heavier than the oil or hydrocarbon gas. Even if the formation pressure is sufficient to start the water moving toward the bottom of the hole, this fluid will encounter the pore spaces that have been filled with the settlings from the muddy water that entered the formation during flood and it will be necessary to force these particles ahead of the fluid. A moderate quantity of solids in the pore spaces of an oil or gas formation will effectively dam the flow of water, oil or gas from areas of high pressure to areas of low pressure. Without great differentials between the high and low pressure areas exerting high pressures to force the fluid towards the well's bottom there is little hope of removing mud from pore spaces.

To plug a well deliberately a mud mixture is introduced into the hole. In your wells this mud has been washed in with the flood waters and to prevent further damage to the property it seems essential that prompt action be taken to repair the surface string so that water or mud cannot enter from the top.

Why Was It Called That?

KNOCK ON WOOD

"I haven't had a fishing job on this well so far," the driller remarks with a satisfied air. And then with a smile he raps some convenient piece of wood with his knuckles. The custom of knocking on wood is said by lexicographers to have grown out of the practice of tree worship among primitive peoples. Trees were supposed to shelter protecting spirits, and to rap on a tree, the dwelling place of a friendly spirit, was to summon the spirit of the tree to shield one from some impending evil. In the course of time knocking on wood to ward off punishment for boasting became a widely prevalent superstition.

PERSONAL PARAGRAPHS

L. H. GAULT, A. Leschen & Sons Rope Company, St. Louis, Mo., is spending some time in Kentucky on vacation.

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SECRETARY HAROLD L. ICKES, petroleum administrator, has turned author. He has written a book, "The New Democracy," expounding his political philosophy, which will be published next month.

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PAUL LEDUC, the new minister of mines for Ontario, Canada, last week made a motor trip through the southwestern Ontario gas fields, accompanied by COL. R. B. HARKNESS, natural gas commissioner.

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C. B. AMES, chairman of the board, of the Texas Company, was in Washington, D. C., for several days after the Congressional hearings ended. He attended the meetings of the Planning and Coordination Committee.

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RALPH ZOOK, of Sloan & Zook, Bradford, Pa., has returned from his vacation in New Mexico, and is spending a few days in Washington, D. C., on business. While in New Mexico, Mr. Zook viewed the famous Hopi Indian snake dance.

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THEODORE RUSSELL and DONALD STAINBROOK have succeeded JOHN McGEE and CHARLES COPSEY as superintendent of pipe line production and tool pusher, respectively, for the Roosevelt Oil Company of Mount Pleasant, Mich.

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J. S. BLACKMAN, recently with Shell Petroleum Corporation, Tulsa, has succeeded E. M. DOYLE as deputy proration umpire in the Tulsa office of the proration department of the Oklahoma Corporation Commission. Mr. Doyle has been transferred to the Seminole office of the proration department.

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M. W. McVEY, oil producer of Kilgore, Tex., has been spending some time in Los Angeles, Calif., enjoying a pleasant vacation.

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L. L. McCOLUM, district manager for Hinderliter Tool Company at Pampa, Tex., made a recent tour of West Texas and New Mexico.

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MATT BLAIR will be store manager and ERNEST REYNOLDS field salesman at the new store to be opened by the Jarecki Manufacturing Company, at Jal, N. Mex.

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WALTER R. GRAY, acting manager, Jarecki Manufacturing Company, Tulsa, was in Pampa, Tex., last week and while there attended the meeting of the A.P.I. production division.

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B. F. HAKE, for some time past in charge of operations of the Nordon Corporation, Ltd., in Canada, is leaving Calgary for a time in connection with professional work in the United States.

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CLYDE ROBINSON, production engineer for the Gulf Production Company, Fort Worth, Tex., is celebrating the arrival of James Stewart, a 9-pound, 11-ounce boy, at his home on September 24.

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H. R. CARPENTER, district manager, Jarecki Manufacturing Company, Bartlesville, Okla., is now on a trip through West Texas and southeastern New Mexico that will take about 10 days to complete.

W. L. FRANKS, of Logan, Ohio, secretary of the Gordon Oil Company, recently paid a visit to the Mount Pleasant, Mich., headquarters of the company.

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J. W. STEWART has been appointed store manager and DAN HARRIS floor man and sales assistant in the International Supply Company store at Hobbs, N. Mex.

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JOHN W. NAYLOR, oil editor of the Fort Worth (Texas) Star Telegram, is receiving congratulations upon the arrival of JAMES RICHARD POWELL NAYLOR, his second son.

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DON R. KNOWLTON, chief production engineer of the Phillips Petroleum Company, is recovering from an operation performed at a hospital in Kansas City, Mo.

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WILLIAM C. McTARNAHAN, president of Petroleum Heat & Power Company of New York, has spent two weeks in California but is returning to his office in the eastern metropolis.

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JAKE CLAIBORN, field superintendent for the Stanolind Oil Company, has been transferred from Big Spring to Odessa, Tex., and is in charge of the new district offices recently opened at Odessa.

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F. E. HATFIELD, district superintendent for the Gulf Production Company, and S. P. COPELAND chief clerk, have moved the West Texas district offices of that company from Crane to Odessa, Tex.

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DR. F. F. HINTZE, of the department of geology, University of Utah, Salt Lake City, with MRS. HINTZE and family, have returned from a visit to Cardston, Alberta, where Doctor Hintze was engaged in geological work for Franco Oils, Ltd.

JAMES VEASEY, vice president of the Carter Oil Company, spent several days in Washington, D. C., on business.

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AXTELL J. BYLES, president of the American Petroleum Institute, New York, was in Washington, D. C., for a few days on business last week.

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MAX WESTHEIMER, of Westheimer & Daube, oil producers and merchants of Ardmore, Okla., is in southern California for a rest.

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C. W. TEATER, prominent independent operator in Central Michigan fields, is reported greatly improved in St. Marys Hospital, Saginaw, Mich., after a serious automobile accident.

• • •

AUBREY SCOFIELD, now superintendent of production for the Gulf Refining Company of Louisiana with headquarters at Thibodeaux, La., will be in charge of the production office being established by the company at Lake Charles. Until now Gulf has had only a land department at that city, which has been in charge of G. W. HOLLEYMAN.

• • •

J. S. GORDON, Standard Oil Company, has been appointed chairman of the Alaska Territorial Petroleum Committee under the petroleum code and will be assisted by L. G. McLAREN, Shell Oil Company; LLOYD BAYLY, General Petroleum Corporation; and F. W. PEMBERTON, of the Union Oil Company.

• • •

ROBERT J. FLOOD, of the Gulf Refining Company, Pittsburgh, Pa., has been elected a member of the board of directors of the Association of National Advertisers, Inc. Mr. Flood has been chairman of the program committee of the association and is a member of the board of the Traffic Audit Bureau.

• • •

W. S. SNOWDEN, of the Snowden Oil Company, of Kilgore, Tex., was a Kansas visitor last week.

• • •

E. C. MORIARTY, vice president and general manager of the Derby Oil Company, has returned from a sojourn in Chicago.

• • •

CLARE L. STAFFORD, district geologist in Kansas for the Darby Petroleum Corporation, was a Tulsa visitor last week.

• • •

C. R. CRAIG, secretary of the Hammond Oil Company, Fort Worth, Tex., and family, are on vacation on the Gulf Coast.

• • •

G. L. HONESTIS has been employed by the Continental Supply Company as material and equipment man in the Hobbs, New Mexico, district store.

• • •

M. A. HAYES, with the Trans-American Construction Company, Tulsa, spent a few days in Fort Worth, Tex., on company business during the past week.

• • •

LOUIE DEUTSCH, East Texas representative for the Happy Belting Company, Kilgore, Tex., has recovered after an operation in the St. Josephs Hospital in Fort Worth, Tex.

• • •

JOHN BRAYBROOK, of the Tropical Oil Company staff at El Centro, Colombia, is spending two months with relatives in Petrolia and other Ontario points.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

October 4, 1909

P. J. White, Thomas White, and H. F. Sinclair, who made a handsome cleanup on the sale of their Alpine Oil Co., are said to be interested in an interurban trolley project from Tulsa to Sapulpa.

The Silver Tip well, on Section 6-21-15, in the Coalinga Field in California is in, and it is good for 20,000 bbls. per day W. R. Guiberson is president of the Silver Tip Oil Co.

The latest rumor as to a pipe line from the Oklahoma fields to Baton Rouge, La., is that the Standard Oil Co. of New Jersey will build a line in Oklahoma to connect with the line through Arkansas and Louisiana. It would have an Oklahoma charter and be a common carrier, but not a buyer or a producer of crude oil.

20 Years Ago

October 1, 1914

The deepest well in the world is at Czuchow in the coal field of upper Silesia. It has reached a depth of 7,348 feet. The deepest well in the United States is at McDonald, Pa., 6,860 feet.

Latest price quotations on Russian crude oil is 46 kopecks per pood.

Matthew McDermott, pioneer oil well tool maker, died in Martins Ferry, Va. He started making tools in the Canadian fields in the sixties.

10 Years Ago

October 2, 1924

Henry Charles Litzinger, president of the Butler County Oil Refining Company, died at his home in Chicora, Pa.

Col. William L. Armstrong, who was superintendent of production on the McClintock farm in Venango County, Pennsylvania, which gave Coal Oil Johnny Steel his fortune, dies in Boulder, Colo.

A 65,000,000-foot gas well is brought in in the Chickasha Field in Grady County, Oklahoma, by the Hall, Briscoe & Nelson Co. It has 148 feet of sand.

R. L. MIDDLETON is a new member of the sales force at Tulsa of the Continental Supply Company.

* * *

JAMES (JIMMY) BURKE, district land man and scout for the Gypsy Oil Company, is now stationed at Okmulgee, Okla.

* * *

CHARLES SCOTT, manager of the Black Gold Oil Company, of Oklahoma City, Okla., spent several days in Tulsa last week.

* * *

O. R. HALL, formerly a scout for the Coline Oil Company, is now scouting the Oklahoma City district for the Texas Company.

* * *

I. E. DUGAN has been made deputy state umpire for the Fitts district, Oklahoma, taking in Pontotoc and adjacent counties. He will be located at Ada.

* * *

JOHN P. WEST, a former Tulsan, is now head of the West Texas land office of the Amerada Petroleum Corporation. He was formerly at Baton Rouge, La.

* * *

FREEMAN W. BURFORD, oil producer and refiner of Dallas, Tex., spent several days in Tulsa last week en route home from a 90-day tour of the West and Northwest.

* * *

E. A. WYMAN, district geologist in Kansas for Amerada Petroleum Corporation, is scheduled to return to Wichita after spending some time in geological work in Michigan.

* * *

PERCY BLACK, counsel for Continental Oil Company of California, is being congratulated by his many friends in successfully defending litigation involving the company's valuable properties in the Kettle North Dome.

* * *

R. E. MARKHAM, of Tulsa, has been on a visit to the old home at Bradford, Pa., and he will take in New York before returning.

* * *

E. W. KRAMPERT and A. F. BARRET have left Casper, Wyo., for Montana, where they will engage in geological work in Carbon County.

* * *

J. L. TATUM, chief geologist of the Consolidated Oil Company of Mexico, at Monterrey, has been a visitor in Oklahoma during the past week.

* * *

R. W. SHOUPE, of Findlay, Ohio, secretary of the Independent-Eastern Torpedo Company, was in Casper, Wyo., on a tour of inspection of the Rocky Mountain region.

* * *

JAMES E. KEATING has been appointed manager of the North Central Gas Company at Oshkosh, Neb., succeeding A. H. WARD who was transferred to Riverton to take the place of EARL BURNS, now assistant housing director for Wyoming.

* * *

F. C. RIPLEY, JR., who has been appointed South American representative of Emsco, D+B and Gardner-Denver equipment for Continental-Emsco, recently left Los Angeles, Calif., for the East preparatory to departing for South America.

* * *

R. M. BOLIEAU, of the sales department of Emsco Derrick & Equipment Company, has been transferred from Houston, Tex., as manager of the Tulsa offices. He has been joined by E. A. RICHARDS, of the derrick division, and formerly located at Oklahoma City, Okla.

* * *

DR. JOHN D. CLARK, of Cheyenne, Wyo., economist and former president of the Midwest Oil Company, and later a professor of economics at the University of Denver, at Denver, Colo., has been engaged to teach a night school class on the trend of governmental control of business at the University of Nebraska.

He Perfected Submersible Barge

The name of G. I. McBride, Shreveport, La., chief engineer for the Louisiana, Arkansas and East Texas division of the Texas Company is associated with advancements made in under-water oil operations, for he developed a barge which solved troublesome problems in connection with such work. He took the edge off that expression, "Once a Californian always a Californian," for although a product of the Golden State, he went East and liked it.

G. I. McBRIDE

Mr. McBride was born July 11, 1901, in San Francisco, was reared in that city, and received his early education there. He graduated from the University of California in Berkeley with a bachelor of science degree in economic geology and then went to work for the State Mining Bureau.

It was as assistant geologist for the Associated Oil Company in Taft, Calif., that Mr. McBride acquired his first direct connection with the oil business. He later went to work for the General Petroleum Corporation as a roughneck and well puller, and then went with the Texas Company's California organization.

Mr. McBride went to Shreveport in November, 1929, being transferred from California to the position he now holds. He has been active in engineering circles in East Texas, as well as in the rest of his district. One of his individual accomplishments, for which he has received wide commendation is the designing and perfection of the large twin-hull, submersible drilling barge which his company is using in its maritime development along the coast of Terrebonne Parish, Louisiana, and which has meant an important saving in cost of operations.

Mr. McBride married Miss Mildred Kerr of Madisonville, Ky.

GORDON H. MICHLER, who was recently placed in charge of the South American, Mexican, and West India marketing operations of the Standard Oil Company of New Jersey, left New York City last week on an inspection tour of these properties. He will be gone several months. Mr. Michler formerly was vice president and general manager of the L'Economique, French subsidiary of the Standard company.

* * *

JONAH JONES, prominent Long Beach, Calif., attorney and owner of several productive properties in the Signal Hill Field; FLOYD BRYANT, chief of the land department of the southern division of the Standard Oil Company; and R. E. ALLEN, assistant umpire of California, were the principal speakers at a meeting of the Los Angeles Basin Chapter of the American Petroleum Institute held at Long Beach which attracted about 250 operators and technical men.

* * *

HENRY G. HUNT, executive secretary of the Oil and Gas Association of Michigan, returned to Mount Pleasant, Mich., last week after spending four days in Washington, D. C., where he was called to testify before the oil committee with representatives of other eastern oil states. He also stopped in Lansing on the way back to attend a meeting of the executive committee of the state advisory group on proposed new natural gas rules and regulations for Michigan.

* * *

V. C. ILLING, professor of geology at the Imperial University in London, England, spoke before the Fort Worth, Tex., geological society at its weekly luncheon meeting. Professor Illing is returning to New York City after having toured oil sections of the United States and Venezuela. Professor Illing made a comparison of the use of geology in the United States and England, saying that its commercial use was greater in America than England. He was introduced by A. R. DENISON. FRANK HERALD presided.

C. O. STARK, Bartlesville, Okla., head of the land department of Phillips Petroleum Company, has been visiting in Houston, Tex., on business.

* * *

FORREST BAKER, formerly with the Carden Green Drilling Company, has become field geologist at Shidler, in western Osage County, Oklahoma, for Kewanee Oil & Gas Company.

* * *

HUGH O. STALCUP, son of H. M. STALCUP, vice president of the Skelly Oil Company, Tulsa, who was seriously injured in a motor accident near Tyler, Tex., is reported improving.

* * *

EDWIN H. BADGER has been appointed manager of advertising and publicity of the Union Oil Company, succeeding DON FORKER who recently resigned to engage in special radio and other advertising work.

* * *

LACEY WALKER, secretary and assistant treasurer of the American Petroleum Institute, New York, was in Dallas, Tex., last week working out details of committee meetings and other matters pertaining to the convention in that city, November 12-15.

* * *

THOMAS Q. WILLIAMS, with the Gulf Production Company, Fort Worth, Tex., was married to MISS GLADYS ORENA McCORMICK, at the First Methodist Church in that city, September 28. After a honeymoon trip to eastern points they will be at home at Lake Worth, Tex.

* * *

ALLAN E. SEDGEWICK, professor of geology at the University of Southern California and F. L. RANSOME, head of the geological department at California Institute of Technology, have been appointed consulting engineers of the Los Angeles County Flood Control district.

* * *

R. B. MOODY, district manager, Jarecki Manufacturing Company, Dallas, Tex., is the proud father of a baby girl born September 27.

* * *

JOHN FITTS, geologist, Ada, Okla., discussed "Correlations and Mountain Making Movements in the Ouachitas" before the Tulsa Geological Society on the evening of October 1.

* * *

JOHN FREY, 61, guard at the Okmulgee, Okla., refinery of the Phillips Petroleum Company, is the oldest man in point of continuous service for that company. He has been with the Phillips company there for 22 years.

* * *

PLINY DEL VALLE, assistant Michigan manager of the Pure Oil Company's producing division, resigned October 1, to accept a position with a producing company in the Southwest. Mr. Del Valle was with the Pure company in Michigan for two years, coming to Mount Pleasant from Oklahoma. He has been treasurer and a member of the board of directors of the Oil and Gas Association of Michigan for the past year.

* * *

HORACE W. ARDUCER, of Kokomo, Ind., formerly employed by the Pure Oil Company in the Porter Field office in Central Michigan, was married recently at Hammond, Ind., to MISS FLORREST FORNEY, of Mount Pleasant, Mich. Mr. Arducer recently was transferred to the Tulsa office of the Pure Oil Company. The couple have returned to their new home in Tulsa.

* * *

WILLIAM K. CARR has joined the staff of the Mid-Continent Oil and Gas Association as public relations assistant to CLAREL B. MAPES, general secretary-treasurer. Mr. Carr is a former resident of Philadelphia, Pa. JOHN CAMPBELL is assistant to Mr. Mapes in charge of associational affairs, the oil code and other matters, and GLENN PATCHETT is assistant in charge of tax committees, statistics and other duties.

MARKET RECORD OF OIL SECURITIES

Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1934 High	1934 Low	Week ended Sept. 29 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
55⅝	41½	5,700	44	42¾	43	Amerada Corp.	774,875	N.P.	50eQ	7-31-34	47⅝	18½	22¾	12	23	11¼
35¼	21½	4,700	25¼	24	25	Atlantic Refining	2,673,834	$25	25eQ	9-15-34	32½	12⅜	21⅞	8⅝	23⅝	8⅝
10	6	6,100	6½	6¼	6½	Barnsdall Corp. A	2,248,795	$5	....	5-11-31	11	3	7	3⅜	14½	4
19¼	6⅞	34,500	9¾	8½	9¼	Columbia Gas & Elec.	11,610,036	N.P.	12½eQ†	5-15-34	28⅛	9	21	4¼	45⅝	11⅝
14¼	7¼	9,700	8½	8	8⅜	Consolidated Oil Corp.	14,218,835	N.P.	14c	10-31-34	15⅜	5	9	4	15⅞	4¼
22¾	15⅜	22,400	19⅜	18	18¼	Continental Oil of Delaware	4,738,593	$5	25c	10-31-34	19⅝	4⅞	9⅜	3⅝	12	5
23½	12	2,700	17	16	16½	General Asphalt	387,149	$10	....	6-15-32	27	4⅝	15½	4¾	47	9⅜
5⅝	2½	1,000	3	3	3	Houston Oil (new)	1,098,618	$25	....	10-17-30	7⅜	1⅞	5⅜	1½	14½	3
3⅜	1⅛	800	1¼	1⅛	1⅛	Louisiana Oil Refining	1,302,158	N.P.	....	.....	4	⅝	2¼	½	4½	1
14¾	9⅛	2,800	12	11	11¼	Mid-Continent Petroleum	1,857,912	N.P.	25c	11-15-34	16	3¾	8⅞	3⅜	16⅝	5
21¼	10	600	12¾	12	12¾	National Supply of Delaware	382,591	$25	....	5-15-31	28⅝	4	13	3½	10¼	5
15⅞	8½	4,200	10⅝	10¼	10⅜	Ohio Oil Co.	6,563,107	N.P.	15c	9-15-34	17⅝	4¾	11	5	19½	5¼
8⅞	5⅜	No sales	..	..	..	Pacific Western Oil	1,000,000	N.P.	25c‡	10-25-33	9½	3	8	3	15	2⅜
2½	⅝	400	¾	¾	¾	Panhandle P. & R.	198,770	N.P.	....	.....	4¼	⅜	1¼	¼	4¼	⅝
20⅜	14½	7,500	16	15	15½	Phillips Petroleum	4,154,687	N.P.	25c	9-1-34	18⅜	4⅜	8½	2	16⅝	4
16⅜	8	7,900	9⅛	8⅜	8⅞	Plymouth Oil Co.	990,261	$5	25eQ	9-29-34	17⅝	6⅜	12½	6	18	6
14⅞	7	5,100	7⅞	7¾	7¼	Pure Oil	3,038,370	N.P.	....	9- 1-30	15⅝	2½	6½	2⅞	11⅞	3¼
39¼	32½	200	34⅛	34	34⅛	Royal Dutch N. Y. shares	432,224	$14	$1.35	7-31-34	39⅜	17⅝	23⅜	12⅛	42⅝	13
39⅜	21½	2,000	25	23½	23½	Seaboard Oil of Delaware	1,204,460	N.P.	15eQ§	9-15-34	43⅝	15	20⅜	6⅝	20⅜	5½
11½	6⅜	3,800	6⅞	6½	6¾	Shell Union Oil	13,070,625	N.P.	....	6-30-30	11⅝	4	8⅜	2½	10¼	2½
89	57	800	65¾	62½	65¾	Shell Union Oil pfd.	400,000	$100	....	7- 1-31	61	28½	65¼	18	78	15
11¼	7¼	8,000	11⅞	11¼	11⅝	Simms Petroleum	461,000	$10	30c	8- 1-34	12⅜	4⅞	7½	3¼	11	3½
11½	6⅜	500	7	7	7	Skelly Oil	1,008,514	$25	....	12-15-30	9⅛	3	5⅜	2½	12⅞	2
19⅞	12½	26,700	14⅝	13¾	14⅜	Socony-Vacuum	31,019,694	$25	15eQ	9-15-34	17	6	12¼	5¼	21	8⅜
42⅞	30⅝	16,800	32½	30¾	31	Standard Oil of California	13,102,900	N.P.	25c	9-15-34	45	19½	31⅞	15⅛	51¾	23½
32¾	25	8,400	26	25½	25⅝	Standard Oil of Indiana	15,941,894	$25	25eQ	9-15-34	34	17	25⅛	13⅛	38½	13½
41	27	100	28	28	28	Standard Oil of Kansas	200,000	$10	50eQ	10-31-34	39⅞	12¾	16½	7	19	7¾
50⅛	40⅝	17,900	44⅛	43	43½	Standard Oil of New Jersey	25,740,965	$25	50eSA	6-15-34	47½	22¾	37⅜	19⅞	52½	26
69¾	51½	100	69¾	69¾	69¾	Sun Oil	1,733,013	N.P.	25eQ	9-15-34	59	35	39⅞	24⅜	45¼	28⅜
20⅜	20	6,600	23½	22½	22½	Texas Corp.	9,486,417	$25	25eQ	10- 1-34	30⅛	10⅜	18¼	9¼	36¼	9⅞
6½	2½	1,700	2⅞	2¾	2¾	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	6½	1⅜	4	1½	6½	1⅞
14⅜	8½	4,900	9¾	9⅛	9½	Tide Water Associated	5,618,672	N.P.	....	2-16-31	11⅜	3½	5⅝	2	9	2¼
85⅛	64½	800	80	78	78	Tide Water Associated pfd.	666,524	$100	$1.50Q	10-10-34	65¼	23½	60	20	68	20½
20½	13¾	2,500	15	14⅛	14⅛	Union Oil of California	4,386,070	$25	25eQ	8-10-34	23⅜	8½	15⅝	8	26⅝	11
21¼	15⅝	700	20⅜	19⅝	20	Union Tank Car	1,200,000	N.P.	30eQ	9- 1-34	22⅜	10½	19¼	11⅝	25½	16
5¾	2½	900	3⅞	3½	3¾	Wilcox Oil & Gas	424,839	$5	....	5-10-28	5½	2	8¾	2¾	9⅜	2¾

*Ex-dividend. †Payable in 5 per cent convertible preferred stock. ‡Initial dividend. §Plus extras.

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1934 High	1934 Low	Week ended Sept. 29 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	1933 High	1933 Low	1932 High	1932 Low	1931 High	1931 Low
38	26	50	31¼	31¼	31¼	Buckeye Pipe Line Co.	200,000	$50	75eQ	9-15-34	39¾	25	35	17½	56	30
5½	2⅜	3,200	3	2⅞	2⅞	Carib Syndicate	579,000	25c	....	.....	7⅜	¼	⅝	¼	2⅜	⅛
126½	115	50	125¼	125¼	125¼	Chesebrough Mfg. Co.	120,000	$25	$1Q†	9-29-34	129	71	90	53	129½	75
4¼	1⅝	16,500	1⅞	1⅝	1⅞	Cities Service	37,804,394	N.P.	....	6- 1-32	6¼	1½	6⅞	1¼	20⅝	5
3¼	1	400	1¼	1	1¼	Colon Oil	2,200,000	N.P.	....	.....	4	⅛	1¼	¼	3½	⅛
3⅞	1⅛	200	1⅜	1¼	1¼	Cosden Oil	399,687	$1	....	.....	3⅞	1⅜	2⅞	¼	3⅝	⅜
14⅜	9⅝	15,200	14⅛	13¼	13¼	Creole Petroleum	6,974,356	$5	....	.....	12	4⅜	3⅛	1⅜	3⅞	1⅜
7½	4⅝	200	5	4⅝	5	Darby Petroleum	509,696	$5	25c	7-25-34	8	2½	7⅛	1⅝	2½	1⅜
2¼	1¼	500	1¼	1¼	1¼	Derby Oil & Refining	263,162	N.P.	....	.....	2⅜	⅞	3	1	6	1½
37	30	No sales	..	..	..	Eureka Pipe Line	50,000	$100	$1Q	11- 1-34	41⅜	20	35	18	36	19
76¾	50	3,600	55½	52	54	Gulf Oil Corp.	4,538,101	$25	....	10- 1-31	62	24	44⅜	23	75½	25⅜
46⅜	33½	7,000	42⅞	41⅛	41⅛	Humble Oil & Refining (new)	8,923,935	N.P.	25eQ	10- 1-34	105½	40	55	35⅝	72	44½
15⅝	12⅝	23,100	15⅝	15⅜	15½	Imperial Oil of Canada	26,857,152	N.P.	25eSA†‡	6- 1-34	15⅞	6½	10⅞	6¼	18¼	7⅞
6⅞	4	No sales	..	..	..	Indiana Pipe Line	300,000	$10	15eSA†	11-15-34	8	3⅛	7½	2⅜	21⅛	5½
30⅜	19⅜	21,100	30⅜	38¾	30¼	International Petroleum	14,247,088	N.P.	50eSA†‡	6- 1-34	23½	8⅞	12¼	8	15½	7⅜
4	2⅞	2,600	3½	3⅜	3⅜	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	2¼	⅛	2½	½	2	½
5⅞	3½	800	3⅞	3½	3⅞	Lion Oil Refining	270,000	N.P.	....	10-27-30	9½	1¼	3½	⅞	6¾	1½
8⅜	4½	2,600	5⅛	4⅞	5	Lone Star Gas	5,382,723	N.P.	16eQ§	3-31-34	11⅞	4⅜	11	3⅜	29	5½
5½	4	600	4½	4⅜	4½	Mountain Producers	1,682,182	$10	15eQ	10- 1-34	6½	2½	4⅜	2½	5⅞	2
18⅛	13¼	1,700	15	14½	14¾	National Fuel Gas	3,810,183	N.P.	25eQ	10-15-34	20	10	14⅝	8	26½	9⅜
9½	7⅜	No sales	..	..	..	National Transit	509,000	$12.50	40eSA	6-15-34	10	5½	10½	6	17½	5
2½	1⅜	300	2¼	2⅛	2¼	New Bradford Oil	1,445,202	$5	10c	9-15-34	2⅜	½	⅞	¼	1½	½
2¾	1	1,400	1¾	1½	1¼	New Mexico and Arizona	1,000,000	$1	....	.....	1⅞	½	1¼	⅜	3	⅜
4⅜	3	100	3⅛	3⅛	3⅛	New York Transit	100,000	$5	15eSA	10-15-34	4⅞	3	9⅜	7½	14½	5⅜
7	4⅝	No sales	..	..	..	Northern Pipe Line	120,000	$10	25eSA	7- 2-34	6⅜	4¼	5½	3⅜	35½	20
2⅝	⅞	3,000	1½	1½	1½	Pantapec Oil	1,608,700	N.P.	....	.....	3⅜	½	⅝	⅛	2	⅜
3⅜	⅞	No sales	..	..	..	Ryan Consolidated	296,931	N.P.	....	.....	4¼	⅜	2⅛	⅜	3	⅜
7⅛	5½	1,300	6½	6¼	6⅜	Salt Creek Producers	1,496,859	$10	20eQ	8- 1-34	9¼	3½	5½	2⅛	7⅝	2¾
26½	17½	700	22⅝	22	22	South Penn Oil	1,200,000	$25	30eQ	9-29-34	22½	11	16½	9⅝	23⅞	9¼
5½	4	No sales	..	..	..	Southern Pipe Line	100,000	$10	15eSA	9- 1-34	6	2½	10	3⅝	17	7
47	41	No sales	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	$1Q	10- 1-34	43	24½	37	27	42½	25
17⅝	14⅝	900	15⅝	15½	15½	Standard Oil of Kentucky	2,606,983	$10	25eQ	9-15-34	19¼	8⅜	15⅞	8⅞	23⅝	12½
16⅞	9	No sales	..	..	..	Standard Oil of Nebraska	190,822	$25	....	6-20-34	20½	11	19	10¼	36½	16
28½	14	250	15	14½	15	Standard Oil of Ohio	753,740	$25	....	1- 3-33	41	15½	30⅛	15½	62½	28
2	1⅛	1,900	1⅜	1⅛	1⅛	Sunray Oil	1,162,840	$5	....	4-15-31	1½	¼	⅝	⅛	5¼	⅛
11	4⅜	700	5½	5½	5½	Texon Oil & Land	936,028	N.P.	15eQ†	9-29-34	13¾	6¼	10½	4½	12⅞	2½

*Ex-dividend. †Plus extras. ‡Payable in Canadian funds. §Payable in preferred stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups

Central West Fields

(Continued from Page 65)

for No. 1-5,917 on the Clarence Conner farm, Section 32, Ripley Township.

In Huron County, J. E. Ringler's No. 1 Harry Southerland farm, Lot 23, Fitchville Township, is a gas well.

In Knox County, Ohio Fuel Gas Co.'s No. 2-5,861, George Beckley farm, Section 1, Jackson Township, came in a gas well at 3,179 feet, and No. 3, same farm, is a new location.

Coshocton County

In Coshocton County, Kuntdz-Hulse, Inc., has a rig for No. 4, French G. Allen farm, in the three-quarters Lot, Newcastle Township. Ira Hazlett is drilling No. 3 Glen Meek farm, Lot 1, Washington Township, and Millersburg Gas Light Co. is drilling No. 2 Gotlieb Reuss farm, Lot 10, Mill Creek Township. Preston Oil Co. is drilling No. 2 Cary D. Harris farm, Lot 17, Perry Township. Same company is drilling No. 4-1,561 on the Mame Ringwalt farm, Newcastle Township.

In Licking County, Blue Rock Oil Co.'s No. 9, on the Samuel Mossholder farm, Section 13, Fallsburg Township, produced 40 bbls. initial at a depth of 3,015 feet. No. 10, same farm, is drilling.

In Muskingum County, Pure Oil Co.'s No. 2 Emmett Shepard farm, Section 6, Jackson Township, produced an initial of 80 bbls. at 3,212 feet. Same company is drilling No. 6 on the Lloyd McKee farm, same section, and No. 2 Sam Huffman farm, Section 4, same township.

In Athens County, Nuzum and others made a location for No. 1 on the John Smith farm, in fractional Section 34, Carthage Township.

In Tuscarawas County, Capital Drilling Co.'s No. 6 Stewart Asher farm, Lot 19, Washington Township, produced 7 bbls. initial at 3,634 feet. Hopewell Oil & Gas Co. is drilling No. 5 Thomas B. and Rosie Shearer farm, same township. Columbia Carbon Co. is drilling No. 1 R. H. Williamson farm, Lot 43, Goshen Township, same county.

In Guernsey County, Ohio Fuel Gas Co.'s No. 4 D. M. Nesbit farm, Lot 1, Willis Township, is a gas well at 1,310 feet. Same company's No. 5-5,892 John Johnson farm, Lot 20, same township, is a gas well at 1,515 feet. Same company is drilling No 1-5,901, Bert H. Foraker farm, Lot 20, same township, and No. 1-5,902 on the Elmer E. Perry farm, Lot 2, same township. Same company has a location for No. 5-5,913 on the D. M. Nesbitt farm, Section 21; for No. 5-504 William W. Woodburn farm, Lot 21, same township; and for No. 2-5,911 J. L. Lent farm, Lot 22. No. 3-5,912, Lent farm, is drilling. Ferguson & McCullough have a rig for No. 1 on the Francis K. Foraker farm, Lot 2, Willis Township. In Monroe Township, George Jewell's No. 1 Carl Weaver farm, Lot 5, produced an initial of 32 bbls. at a total depth of 3,633 feet. Preston Oil Co. has a location for No. 1 on the Rhea R. Lent farm, Lot 10, Millwood Township.

INDIANA-ILLINOIS

No completions were reported from the Indiana and Illinois fields.

KENTUCKY

The 12 wells completed in Kentucky were all in the Mathews Pool, Ohio County, which continues to be the most active district in the State. With 11 producers and 1 "duster" the total production was 717 bbls. W. E. Hupp & Co., which has been making quite a play on the J. W. O'Dell farm, completed six producers on that farm. No. 21, in the northwest corner, had a showing of 80 bbls., No. 22 had an initial of 60 bbls., and No. 23 was shot to 100 bbls. the first 24 hours. Nos. 24, 25, and 26, produced 30 bbls., 5 bbls., and 2 bbls., respectively.

On the J. W. Peckenpaugh farm, Snowden & McSweeney Co.'s No. 14 had an initial of 75 bbls. Same company, on the same farm, completed No. 15 with a showing of 60 bbls. On the O'Dell heirs farm, same company's No. 3 was shot to 60 bbls. and its No. 4, on the same farm, had a production of 75 bbls.

Joseph B. Mayer's No. 7, on the J. W. Mathews farm, with a showing of 170 bbls., was the largest completion. J. B. Mayer's No. 2, on the James Newton farm, was dry. It was drilled through the Jet sand to a total depth of 327 feet.

Kansas Fields

(Continued from Page 63)

Siliceous lime at 3,331-41 feet, and was to be acidized.

Lario Oil & Gas Co. and others' No. 3 McFarland, NE NE SW Section 7-20-9w, Sharpe Pool, found Siliceous lime at 3,264-96 feet. It swabbed 36 bbls. in nine hours and was to be acidized. Shell Petroleum Corp. had not yet acidized No. 1 McFarland, SE SE NW Section 7-20-9w, which last week was reported to have swabbed 263 bbls. in 24 hours from Siliceous lime at 3,259-91 feet.

In the Beyer Pool, Keith and others' No. 1 Volkland, SE NE SE Section 20-19-9w, was completed. It made a potential production of 457 bbls. in 24 hours from Siliceous lime at 3,206-25 feet, which had been acidized.

Moore, Blankenship and others had a rig up for No. 1 Browning, 1,395 feet south and 75 feet west of NE cor. Section 31-19-9w.

Robertson and others' wildcat test, No. 1 Johnson, NW NW SW Section 22-19-8w, which had been deepened from 3,549 feet, was abandoned at 3,591 feet with the tools stuck in the hole.

Continental Oil Co. and others had material in for No. 1 Kimple, SE SE NW Section 25-18-8w. Joe Aylward had rig up for No. 1 Stratman, SE SE NW Section 1-17-10w, in the Stratman Pool.

Sinclair Prairie Oil Co.'s No. 4 Stratman, SE NE SW Section 1-17-10w, was completed. It pumped an average of 585 bbls. per day for three days, from Siliceous lime at 3,244-58 feet, which had been acidized.

Twin Drilling Co. and others were moving in material to start No. 1 Rolf, SW NW SW Section 13-17-9w, a wildcat.

Elwell and others had a hole full of water from Siliceous lime at 3,475-3,511 feet, in their No. 1 Campbell, SW cor. Section 20-17-7w, and the hole was abandoned.

Morris County

Ryan and others' No. 1 Wiesse, C SE NW Section 9-17-7, Morris County, was drilling at 1,355 feet.

Russell County

Sinclair Prairie Oil Co. and Slick-Urschel, Inc.'s No. 1 Sellens, SW cor. Section 25-15-13w, Russell County, pumped an average of 616 bbls. per day for three days on a potential test, producing from Oswald lime at 3,048-3,10[illegible] feet, which had been acidized. It is a completion.

Empire Oil & Refining Co. made a location for No. 1 Bender-D, SE SW SE Section 23-15-4w. This was formerly reported as Empire's No. 3 Bender-B, Section 23-14-15w, which was incorrect.

Central Petroleum Co.'s No. 2 Benzo, NW NE SW Section 4-14-15w, was completed. It pumped an average of 195 bbls. for three days in a potential test from pay at 3,057-74 feet, which had been treated with acid.

Stearns & Streeter's No. 1 Gorham, NE NW SW Section 7-13-15w, was dry and abandoned at 3,425 feet.

Stanolind Oil & Gas Co. is deepening No. 24 Austin, NE SE NW Section 8-12-15w, and was drilling at 3,035 feet.

Trego County

Alma Petroleum Co. made a location for No. 1 Heckman, C SW SW Section 11-11-23w, Trego County.

Saline County

Dieter and others made a location for a test, No. 1 Herrington, NE NW SE Section 3-13-1w, Saline County.

Rooks County

Stearns & Streeter and others were building rig for No. 1 Hoskins, SE SW SE Section 34-9-16w, Rooks County.

Oklahoma Fields

(Continued from Page 69)

NE cor. NW Section 10-7-4, was drilling at 1,754 feet.

Magnolia Petroleum Co. was digging pits for No. 2 J. Jordan, NW NE SW Section 12-7-4. Conley Drilling Co. was moving in material for No. 2 Vinson, SW NE NE Section 13-7-4.

Magnolia Petroleum Co.'s No. 3 Tarter, NW NE SW Section 15-7-4, was drilling at 4,308 feet, with a hole full of water.

H. Phillips had cellar and pits dug for No. 3 Bradshaw, NW SW SE Section 21-7-4. F. Biggs was cleaning out to drill deeper in No. 2 Dodson, SE NW SE Section 26-7-4, old total depth 3,954 feet.

Phillips Petroleum Co. was tubing No. 2 Curly, SW SE NW Section 22-7-4, to give it a pumping test. It is an old well deepened to 4,222 feet. It had swabbed 169 bbls. of oil and 54 bbls. of water in 18 hours from dolomite topped at 4,173 feet.

Magnolia Petroleum Co.'s No. 2 Brister, NW SE NE Section 28-7-4, was completed. It had dolomite at 4,124-50 feet and swabbed 529 bbls. of oil in 48 hours, with 1,200 bbls. of water.

Sinclair Prairie Oil Co. completed No. 5 Brandenburg, SW cor. Section 7-7-5. It was reacidized in dolomite at 3,864-3,965 feet with an additional 178-bbl. oil load, and swabbed 103 bbls. of oil in 24 hours. Same company completed No. 1 Hambrell, SW NE SE Section 18-7-5. It tested 2,166 bbls. of oil swabbing and flowing in 48 hours. It had previously flowed 1,158 bbls. of oil in 20 hours, after an acid treatment with an added load of 78 bbls. of oil.

Mid-Continent Petroleum Corp. was rigging up rotary for No. 11 Factor, NW cor. SE Section 15-7-8, Hughes County.

Royce and others' No. 7 Walker, NE cor. SW Section 22-7-8, was completed as an 8-bbl. well in Calvin sand at 1,152-90 feet.

Champlin Refining Co. completed No. 1 Jackson A, SW cor. NW Section 30-7-8. It flowed 615 bbls. of oil in 24 hours from pay at 2,978-3,029 feet.

Burke Greis Oil Co. was rigging up rotary for No. 1 Jackson A, SW cor. NW Section 29-7-8.

Phillips Petroleum Co. and Gypsy Oil Co. and others' No. 1 Flynn, a community test, NE NE NW Section 17-6-3, West Asher, Pottawatomie County, was a hole full of water from Wilcox sand at 4,666-72 feet, total depth, and was abandoned. This test had all the regional formations, but it found nothing but dry sand, salt water or sulphur water all the way.

Bishop Oil Co.'s No. 1 Zoller, CEL NE NW NE Section 6-6-5, swabbed 50 bbls. of oil in seven hours from dolomite at 4,005-4,176 feet and at 4,176-78 feet.

LeFlore County

LeFlore Gas & Electric Co. completed a 220,000-foot gasser in sand 1,495-1,615 feet in No. 1 James, CWL SE SW SW Section 11-6-21, LeFlore County.

Grady County

C. E. Brace had rig up for No. 2 Jolly, SE NW SW NW Section 36-4-7w, Grady County.

Pontotoc County

In the Fitts area in Pontotoc County, Magnolia Petroleum Co.'s No. 1 Craddock, SE cor. Section 24-2-6, had Simpson dense at 4,410 feet, total depth 4,416 feet. The crew ran 510 feet of liner and bailed the hole dry. The well showed 2 bbls. of oil. It will be acidized.

W. A. Delaney and others completed No. 1 Craddock, south 40 acres, NW SE NE Section 25-2-6. This well was previously reported. It flowed 1,887 bbls. of 38.4 gravity oil in 6½ hours with gas at the rate of 4,000,000 feet per day with 750 pounds pressure, through 2½-inch tubing. It had the top of the bromide at 4,195 feet; sand at 4,357-93 feet; sandy lime at 4,393-4,409 feet; sand streaks and lime at 4,409-27 feet, total depth.

Fleetborn Oil Co.'s No. 2 John Norris, a shallow gas test, SE NW NE Section 25-2-6, has sand at 1,421-37 feet and produced gas at the rate of 6,000,000 feet per day and was shut in.

Magnolia Petroleum Co.'s No. 1 Tom Norris, a shallow gas test, C SW NE Section 25-2-6, was shut in. It was a 50,000,000-foot initial producer from broken sand at 1,360-1,400 feet.

E. H. Moore made location for No. 1 Akers, NW NE NE Section 36-2-6.

Blackstock and others abandoned their No. 1 Lewis, NE NE SE Section 19-2-7. It was acidized at 3,975-4,666 feet and tested 45 bbls. of oil and some water. It had been drilled to 4,911 feet and plugged back.

Moore and others' No. 2 fee, NE SE SW Section 29-2-7, which made 1,381 bbls. of oil initially early in August from Wilcox sand at 3,951-60 feet, lime at 3,960-68 feet, sand at 3,968-75 feet, lime at 3,975-82 feet, and sand at 3,982-97 feet, total depth, was completed. With the gate almost closed the well produced 448 bbls. a day one week after it came in. It has not been drilled through the sand and lime pay and its potentiality is not known, but it is a good well.

Blackstock Oil Co.'s No. 2 Hardin-D, NE SE NW Section 30-2-7 (formerly reported as No. 1-A), had sand at 4,442-80 feet, total depth 4,535 feet. It flowed 540 bbls. the first hour through casing. Later it flowed 919 bbls. through 2½-inch tubing in five hours with 500 pounds back pressure on casing. Same company has rig up for No. 3 Hardin-D, SW SE NW Section 30-2-7.

Southern Counties

L. F. Wham and others' No. 2 Newsome and others, SE SW NE NE Section 25-7s-5e, Marshall County, pumped 16 bbls. of oil and 500 bbls. of water in five days from sand 459-74 feet.

R. A. Godfrey had machine in for No. 4 Eppler, NW NE NE NE Section 36-7s-5e. His No. 3 Eppler, NE NW NE NE Section 36, had sand at 507-19 feet and 400 feet of oil in the hole. It was being rigged up to pump.

Hudson & Poland were pulling pipe to abandon their wildcat test, No. 1 Sullivan, NE cor. SE Section 5-5s-1w, Carter County. It tested only water at 3,920-4,060 feet, after having been plugged back from 4,511 feet.

Carter Oil Co.'s No. 1 Bonner, SW SE SE Section 19-3s-2w, Carter County, was dry and abandoned at 4,018 feet.

Ed Galt and others' No. 1 Aetna Life Insurance Co., SE NW NW NW Section 14-2s-3e, Murray County, was dry and abandoned at 1,010 feet.

Oklahoma Oil Corp.'s No. 1 May Tubbi, SW NE SE Section 11-2s-8e, Johnston County, was abandoned at a total depth of 3,782 feet. It had sulphur water in Wilcox sand at 3,765-76 feet.

NEW COMMITTEE

A meeting of the main tank committee of the American Petroleum Institute will be held in Dallas, Tex., during the fifteenth annual meeting of the Institute, that organization's division of production has announced.

J. H. Wood, Jr., of the Atlantic Pipe Line Co., Dallas, Tex., has been appointed national secretary of the A.P.I.'s committee on the standardization of steel tanks for oil storage, replacing W. C. Shutts, resigned.

H. M. Stevenson, of the Humble Pipe Line Co., Houston, Tex., has been named chairman of the southwestern district subcommittee, and W. M. Griffin of the Shell Oil Co., San Francisco, has been made chairman of the California district subcommittee and chairman of the engineering subcommittee, C. A. Young, secretary of the committee, has announced.

The manufacturers subcommittee on bolted tanks will have William Schwemlein of the Parkersburg Rig & Reel Co., Parkersburg, W. Va., as its new chairman. Mr. Schwemlein replaces L. N. Slater, who resigned.

Rocky Mountain Area

(Continued from Page 72)

well, or average depth of wells, on lease does not exceed 1,750 feet.

"Seven and one-half barrels or less if the depth of well, or average depth of wells, on lease exceeds 1,750 feet and does not exceed 2,250 feet.

"Ten barrels or less if the depth of well, or average depth of wells, on lease exceeds 2,250 feet and does not exceed 2,750 feet.

"Fifteen barrels or less if the depth of well, or average depth of wells, on lease exceeds 2,750 feet and does not average 3,250 feet.

"Twenty barrels or less if the depth of well, or average depth of wells, on lease exceeds 3,250 feet and does not exceed 4,000 feet.

"Twenty-five barrels or less if the depth of well, or average depth of wells, on lease exceeds 4,000 feet.

"Provided, that unusual conditions in specific instances may be reviewed by the board upon application and the board reserves the right to determine, prescribe and define certain wells to be 'stripper wells' regardless of the above stated general definition of such wells."

Under this ruling Cat Creek and Kevin-Sunburst strippers are 5 bbls.

Pondera Field strippers are 7½ bbls.
Border Field strippers are 10 bbls.
Cut Bank strippers are 15 bbls.
Big Lake strippers are 20 bbls.
Dry Creek strippers are 25 bbls.

UTAH

Mountain Fuel Supply Co.'s No. 2 Murphy, S NE NE Section 21-3n-24, Clay Basin, Daggett County, is coring at 5,400 feet in the Frontier with a showing of gas estimated at 3,000,000 feet a day. The Dakota is expected at 5,600 feet. Longwell Petroleum Co.'s No. 1, SE SW SE Section 35-3n-5e, Chalk Creek, Summitt County, is drilling at 1,000 feet. The location is 800 feet down structure on the east side of a fault. Escalante Exploration Co.'s No. 2 Escalante, NW cor. NE Section 19-43-15, Bloomington district is drilling at 4,058 feet after changing over to cable tools.

IDAHO

Boise Petroleum Co.'s No. 1 Pence, SE NE SW Section 13-8n-4w, Big Willow district, Payette County, which suspended temporarily at 2,500 feet a year ago when rig pulled in, has repaired damage and is drilling at 2,550 feet.

WASHINGTON

People's Oil & Gas Co.'s No. 1 Donnie Boy, Section 19-17-28, Frenchman Hills district, Grant County, is building derrick for cable tool test, Northwest Oil Research Corp.'s No. 1-A Norco, SW Section 26-22-20, Wenatchee Heights, Chelan County, is cementing off cave at 1,550 feet, at which depth it encountered a seam of coal.

OREGON

Langwell Valley Oil Co.'s No. 1 Bonanza, Section 19-32-12, Klamath County, is bottomed at 3,050 feet and reports a show of oil in sand at 3,020-35 feet.

Eastern Fields

(Continued from Page 64)

these operators are building a rig on the Oscar Kelly farm. In Smithfield district, Sand Run Oil & Gas Co. is drilling the second test on the Josephine Young farm, about 640 feet southeast of No. 1. In Spencer district, George E. Smith has prepared a location for a second test on the L. A. Short farm. O. G. Epling is down 1,960 feet on the L. P. Starr farm.

SOUTHWEST PENNSYLVANIA

Two producers and one gas well were completed in Southwest Pennsylvania but activity is now at a low ebb. In North Franklin Township, Washington County, E. H. and J. B. Tague completed No. 12 on the Adaline D. McKennan estate in the Dunkard sand at a depth of 860 feet, showing for 5 bbls. a day. In Robinson Township, this county, Cowden Oil & Gas Co. drilled deeper the test on the William Rankin farm from the Gordon sand in which there was no showing to the Fifth sand. It is good for 3 bbls. a day from that formation.

In Greene County, Greene County Gas Co. completed drilling deeper the test on the Stephen Crane farm in Greene Township to a total depth of 2,961 feet. The top of the Bayard sand was at 2,918 feet with about 60,000 feet of gas a day showing at 2,920 feet. The bottom of the sand was at 2,925 feet.

In this county, near Jacktown, Natural Gas Co. of West Virginia is shut down on the Peter Ashby farm testing gas in the Big Dunkard sand. The Pittsburgh Coal was at 635 feet. New Oil & Gas Co. shut down No. 4 on the John Logue farm being drilled deeper from 1,989 feet and is testing at 2,962 feet. This is in Richhill Township. In Franklin Township, Carnegie Natural Gas Co. has started to drill deeper No. 2 on the Emma Lapping farm and has reached 2,140 feet. In Dunkard Township, Vance Leases Co. is spudding on the James and Willis Vance farm, north of the Lynch producers.

In East Findley Township, Washington County, Myers Hoskinson & Co. have made a location on the M. C. Francis farm about 1,000 feet southwest of Union Gasoline & Oil Corp.'s No. 2 Sprowls. In Amwell Township, Washington County, the only well drilling is Carnegie Natural Gas Co.'s test on the A. M. Cole farm which has reached 2,623 feet and should be soon in the Ninevah Thirty-Foot sand.

Canadian Fields

(Continued from Page 70)

district of southern Alberta, not far from Lethbridge, where Terminal Oil Co., backed by M. Phillip Hansen and associates of Los Angeles, has derrick up in the NE Section 18-1-21w4. Location is on acreage of Nordon Corp., Ltd., and west of the Twin River structure where Nordon Corp. and associated interests have encountered oil shows in two deep tests. The area subleased by Terminal Oil Co. has been geologized and core drilled, indications being that the drill will get the Madison lime a little below 5,000 feet. Pat Adams, who worked on Nordon-Roney's No. 2 Twin River, is handling the drilling. Nordon Corp. holds about 7,000 acres on the Del Bonita structure, and acreage is also held by Alberta Pacific Consolidated Oils, Ltd., and Multi-Structure Oil Holdings, Ltd., both of Calgary.

Wainwright Operations

Reconditioning of old wells in the Wainwright Field is being continued by Gold Standard Oils, Ltd., and other interests. The refinery of Gold Standard company at Wainwright takes the entire production of the field, and also considerable Wyoming crude. British Wainwright Oils' No. 1, LSD 13, Section 20-45-6w4, has been put on the pump after being off production for four years. Of the 14 wells drilled in this area, 6 have been brought back into production, the yield ranging from 5 to 15 bbls. a day.

Aldersyde Operations

On the Aldersyde structure, east of Turner Valley, Ranchman's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-28w4, is running casing to 6,265 feet, where it encountered a change in formation with additional gas and a fair show of crude, and was shut in waiting for casing, since which time it has been producing various grades of naphtha or light crude from the drip. Water was run to hold back the gas, but the pressure, estimated at 1,000 pounds, has frequently blown water over the derrick. Casing will be run to the bottom and the test drilled into the sand. Pending results, the Alberta government recently withdrew adjacent acreage from leasing.

Saskatchewan Operations

In the Simpson district, southeastern Saskatchewan, Simpson Oil Co.'s No. 2 is rigging up. Location is higher on structure than Simpson's No. 1 which got commercial salt brine at 3,445 feet after encountering several gas shows and four oil shows. Shallow structure tests drilled subsequently showed a rise of 340 feet in 1¾ miles with closure both north and south, the axis of the fold being near No. 2 location. A geological report indicates gas at 900 feet, oil at 1,700 feet and salt at 3,300 feet.

On the Dirt Hills structure, Pine River Petroleums' No. 1, LSD 8, Section 23-12-24w2, has installed new stem and is resuming from 4,193 feet.

Ontario Drilling

In Moore Township, Lambton County, Ontario, American Engineering Co.'s No. 4, I. C. Kerr farm, Lot 21, Concession 1, is below 165 feet. In the Dawn Field, Union Gas Co.'s No. 78, NW Lot 29, Concession 11, Dawn Township, is spudding. Union's No. 34 Moorehouse, Lot 25, Concession 5, Euphemia Township, is deepening from 1,600 feet.

In Plympton Township, British Petroleum Co. of Hamilton is planning to continue work on acreage north of the shallow field. The company holds 3,200 acres 8 miles northwest of Petrolia and 15 miles east of Sarnia on the northerly extension of the Cincinnati anticline. Numerous oil and gas seepages have been found, and oil shale outcrops at Kettle Point on Lake Huron.

In Brooke Township, Scientific Oil & Gas Syndicate of Toronto is planning shallow tests in the hope of extending the limited producing area discovered. The syndicate holds 250 acres, partly in Brooke, and partly further east in Metcalfe Township, Middlesex County.

Niagara Gassers

In the Niagara peninsula, Ontario, Kelly Oil & Gas Syndicate of Toronto has finished a series of eight shallow gassers, five of which have been tied in to the pipe line. It is planning several more. Lynn Valley Natural Gas Syndicate of Toronto has finished a gasser in Haldimand County with initial production of around 55,000 feet a day; and has started a second test and leased 130 acres. Sterling Gas Co. of Toronto has finished seven fair gassers and is planning eight additional tests. May Gold and Natural Gas Syndicate's No. 4 has been finished as a small gasser.

In Haldimand County, Smith & Ehde are finishing Lowbanks Syndicate's No. 2. No. 1 got indications of gas on top of the sand, but has been shut in pending completion of No. 2. Production will be taken by Dominion Natural Gas Co. which will tie in the wells when a total of four producers has been completed. The syndicate plans a total of 10 wells.

In Brant County, Petrol Oil & Gas Co.'s No. 67 on the Six Nations Indian Reserve, has been finished with a flow of 35,000 feet a day and 195 pounds rock pressure, and No. 68 is drilling.

Kent County Operations

In Kent County, Ontario, Union Gas Co.'s No. 24, Benedict farm, Lot 140, Talbot Road, Raleigh Township, in the De Clute Field, is a large gasser.

In the old Tilbury Field, Ladd & Ziegen Syndicate's No. 1, Guy Mifflin farm, S. Lot 7, Concession 14, Tilbury East Township, is below 400 feet.

In the Dover Field, F. H. Stover & Son's No. 2, Sam Antaya farm, is below 300 feet. Ajax Oil & Gas Co.'s No. 9, Johnston farm, is around 300 feet.

Petrolia Deep Test

In the Petrolia Field, Lambton County, an important deep test is being undertaken by Fred H. Merritt, mining and petroleum engineer, of Duluth, Minn. The shallow horizons of the Delaware and Onondaga lime in the Petrolia Field have been producing steadily for approximately 70 years and there are still thousands of producing wells. Very little deep drilling has been done, though the structure covers some 20,000 acres. Mr. Merritt is planning to test the underlying Guelph-Niagara, Clinton, Medina and Trenton formations, and expects to start his deep test about December 1.

Manitoulin Operations

Drilling is being started on Dutch Island, south of the western end of Manitoulin Island, in Georgian Bay, where A. E. Randall & Sons of Petrolia have rigged up. There have been intermittent operations on Manitoulin Island since about 1866, and numerous encouraging oil shows have been encountered. Three years ago a test was drilled near Ten Mile Point on Manitowaning Bay, near the eastern end of the main island, but failed to get commercial production. Some of the earlier wells had a good initial production, which failed to hold up. It is claimed by geologists that in the northern part of the island the producing horizon of the Trenton limestone lacks cover; but that deeper tests in the southern part of the island may give better results.

Gasser in Quebec

In Quebec province, a test recently completed by Dave Wright of Sarnia for a Toronto syndicate on the north shore of the St. Lawrence River 30 miles east of Montreal gave a fair commercial gas production at shallow depth. The Toronto interests will put down a second well.

Kansas Wildcats

(Continued from Page 63)

Marathon Oil Co.'s No. 1 Kline, SW SE Sec. 19-14-24w.
Set. 10-in. 3,408 ft.; drlg. 3,755 ft.

Robberson et al's No. 1 Johnson, NW NW SW Sec. 22-19-3w.
Old well deepening; T.D. 3,591 ft.; tools stuck; fishing.

Stark & Wells' No. 1 Smith, NW cor. Sec. 36-19-8w.
Location.

Twin Drlg. Co. et al's No. 1 Rolfs, SW NW SW Sec. 13-17-9w.
Moving in material.

Langston et al's No. 1 Markle, NE SW Sec 1-20-9w.
S.D. 2,870 ft.

Yingling et al's No. 1 Maupin, NW SW SW Sec. 1-18-8w.
T.D. 2,620 ft.; fishing for tools.

ROOKS COUNTY

Ashby et al's No. 1 Doughty, C SW SW Sec. 15-8-19w.
Oswald lime 3,186 ft.; pay 3,215-25 ft., T.D.; Swbd. 3 bbls. oil per hour; acidized; pumped 364 bbls. in 24 hrs.; completed.

RUSH COUNTY

Corbett, Barbour et al's No. 1 Schmidt, C SW SW SE Sec. 10-17-16w.
Location.

Corbett, Barbour et al's No. 1 Schmidt, SW SW SE Sec. 10-17-16w.
Moving in material.

RUSSELL COUNTY

Blair et al's No. 1 Fink, SW NW SE Sec. 16-14-14w.
Rigging up.

Eldorado Ref. Co.'s No. 1 Stratman, SW SE SE Sec. 32-14-11w.
Drlg. 550 ft.

Tom Palmer et al's No. 1 Herbel, NW SW Sec. 4-12-11w.
Set 20-in. at 65 ft.; drlg. 390 ft.

SCOTT COUNTY

Atlantic Oil Prod. Co.'s No. 1 Vaniman, C SE NE Sec. 15-20-33w.
Drlg. 3,326 ft.

SEDGWICK COUNTY

Allison & Fitzwilliams et al's No. 1 Struthers, NE SW Sec. 34-28-2w.
T.D. 267 ft.; straightreaming crooked hole.

Gypsy Oil Co. et al's No. 1 Tammany, NW NE Sec. 4-29-1w.
Simpson at 3,878 ft.; T.D. 3,936 ft.; small show of oil.

Jones, Kirk et al's No. 1 McQuillan, NE NW NE Section 21-29-2w.
Chat 3,618 ft.; T.D. 3,720 ft.; fishing.

Lassen et al's No. 1 Wall, C SE SW NE Sec. 4-28-1 (O.W.D.D.).
H.F.W. 3,501-06 ft.; abd.

D. R. Lauck et al's No. 1 Roy, SE SW Sec. 24-29-1w.
Drlg. 1,900 ft.

Syndicate O. & G. Co. et al's No. 1 Ratzlaff, NE NW NW Sec. 30-26-2.
Rigged up and S.D.

Treese Oil, Derby Oil et al's No. 1 McMinn, NW SW NE Sec. 36-26-1e.
Drlg. 3,239 ft.

SUMNER COUNTY

Wentz and Continental's No. 1 Small, NW SW Sec. 5-32-4w.
T.D. 4,447 ft.; fishing.

Wentz et al's No. 1 Horsley, CSL SW SW SW Sec. 18-35-1.
Drlg. 2,234 ft.

TREGO COUNTY

Marathon Oil Co.'s No. 1 Kline, SW SE Sec. 19-14-24w.
Drlg. 3,950 ft.

WASHINGTON COUNTY

Rose Oil Co. et al's No. 1 Penwell, NE NW SE NE Sec. 16-3-3 (O.W.D.D.).
Old T.D. 1,720 ft.; R.U. and S.D.

WOODSON COUNTY

Schwartz et al's No. 1 Collins, SW NW NE Sec. 30-23-14.
Drlg. 610 ft.

Gulf Coast Wildcats

(Continued from Page 58)

Harrison & Abercrombie's No. 1 Elving, C of Lot No. 15, H.B.&T. Sur.
Cutting and pulling drill pipe 3,400 ft.

Texas Co.'s No. 5 C. F. Ewing, 330 ft. S 47 deg. 59 ft. E and 265 ft. S, 41 deg. 36 ft. W of N cor. of Lot 5, H. & N. Little Sur.
T.D. 4,052 ft.; I.P. 25 bbls. in 12 hrs.; ⅝-in. choke; comp.; tubing pressure 250 lbs.; csg. pressure sealed.

Texas Co.'s No. 5 Houston Oil Field Assn., A.C.H.&B. Sur. No. 9 at C of Lot 22.
Rig up to pump, 4,085 ft.

Texas Co.'s No. 1-A Massey, 330 ft. out of NW cor. of 32-ac. tract in H. Stevens Sur.
Drlg. shale 7,190 ft.

FLEDGER—BRAZORIA COUNTY

Humble O. & R. Co.'s No. 1 Bob McFarland, 525 ft. S, 1,900 ft. W of SE cor. W. C. Carson Sur.
Drlg. shale 5,428 ft.

STRATTON RIDGE—BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 1 Bowers, 2,400 ft. N line and 1,550 ft. from E line of Jared Groce Sur.
Drlg. plug 2,053 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Sterling O. & R. Co.'s No. 3 Hogg, 100 ft. N of No. 2 and 100 ft. from W line of lease.
No report.

Texas Co.'s No. 84 Hogg, 2,483 ft. N, 50 ft. W from SE cor. of lease in M. Varner Sur.
Ttemporarily S.D. 5,242 ft.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 2 Fisher, 150 ft. N of No. 1, Wm. Bloodgood Sur.
Drlg. shale 5,314 ft.

Mills Bennett Prod. Co.'s No. 10 Wilburn, 190 ft. S N line, 150 ft. W of No. 9, Henry Griffith league.
Drlg. shale 3,639 ft.

Moody Corp.'s No. 1-C E. W. Barber, 302 ft. from N line and 312 ft. from E line of "B" lease, H. Griffith Sur.
Rig up.

Humble O. & R. Co.'s No. 6-B Kirby, 598 ft. N of S line, 386 ft. E of W line of lease, or 125 ft. N and 288 ft. W of No.5.
Drlg. sand 5,219 ft.

Humble O. & R. Co.'s No. 7-B Kirby, 200 ft. W of No. 6 in Henry Griffith league.
Derrick.

Sinclair Prairie Oil Co.'s No. 18-A Wilburn, Henry Griffith league, 150 ft. W of No. 17-A and 14 ft. S N line of lease.
Drlg. shale 5,026 ft.

Sun Oil Co.'s No. 6 Higgins, 302 ft. W of E line and 432 ft. N of S line of lease.
Drlg. shale and lime 2,770 ft.; base of salt 2,749 ft.

Sun Oil Co.'s No. 10 Chambers, 50 ft. from N and W lines of lease.
Drlg. salt 2,670 ft.

Sun Oil Co.'s No. 17 Wilburn fee, 188 ft. E of W line and 40 ft. S of N line and 150 ft. W of No. 16.
Derrick.

Sun Oil Co.'s No. 22 J. Wilburn, midway between wells No. 17 and 21, or 150 ft. from each well.
Drlg. salt 2,399 ft.

Texas Gulf Prod. Co.'s No. 4-B E. W. Barber, 75 ft. S of Moody Corp.'s No. 6-A Barber and 75 ft. from SW line of 38-ac. lease, H. Griffith Sur.
Drlg. cap rock 1,220 ft.

Texas Gulf Prod. Co.'s No. 2 Eberspacher 480 ft. from S line and center of strip No. 4.
Set 9⅝-in. csg. 5,296 ft.; waiting on cmt. to set 5,327 ft.

Texas Gulf Prod. Co.'s No. 5 J. F. Wilburn, 110 ft. W of No. 3 and 50 ft. N of S line of lease, Wm. Hodge Sur.
Cap rock 1,350 ft.

Texas Gulf Prod. Co.'s No. 3 O. W. Winfree, 595 ft. S of N line and 50 ft. W of E line of lease.
Drlg. shale and lime 4,272 ft.

Yount Lee Oil Co.'s No. 25 Chambers County, 75 ft. S, 50 ft. W of NE cor. of lease.
Drlg. 3,513 ft.; (corrected).

Yount Lee Oil Co.'s No. 26 Chambers County, 50 ft. N of S line and in line with Chambers Co.'s No. 2 and Sun's No. 9 Chambers.
Set 7⅝-in. csg. 3,736 ft.; waiting on cmt. to set 3,739 ft.

Yount Lee Oil Co.'s No. 27 Chambers Co., 400 ft. W of No. 24 and in line with Nos 24 and 21.
Derrick.

Yount Lee Oil Co.'s No. 28 Chambers County, 50 ft. N S line, direct offset to Sun's No. 10 Chambers County, Wm. Bloodgood Sur.
Derrick.

Yount Lee Oil Co.'s No. 9 Phillips, 100 ft W of No. 8.
Top sand 3,028 ft.; prepare to core; T.D. 3,030 ft.

BLUE RIDGE—FORT BEND COUNTY

Mills Bennett Prod. Co.'s No. 2 Luscher, 1,950 ft. S and 750 ft. E of westerly NW cor. 500-ac. tract, Thos. Hebermaches Sur.
Reaming 5,276 ft.; (corrected).

BOLING—FORT BEND COUNTY

Allied Minerals, Inc.'s No. 1 E. C. Farmer, James Scott League, 750 ft. SE of NW line and 150 ft. SW of NE line of Gulf Prod. Co.'s E. C. Farmer 50-ac. tract.
Derrick.

THOMPSON—FORT BEND COUNTY

Gulf Prod. Co.'s No. 5 Hammerstram, 2,315 ft. E along S line of lease from SW cor. and 300 ft. N at right angles, Samuel Kennedy Sur.
Drlg. shale 5,169 ft.

Humble-Gulf's No. 29-A Lockwood & Sharo T.D. 5,388 ft.; I.P. 13 bbls. per hr.; ⅝-in. choke.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 41 Moore, 3,372 ft. S along W line from NW cor. of James Frazier Sur., and 2,154 ft. at R/A.
Drlg. lime rock 2,520 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 41 Cade, Fitzsimmons Sur.
Abd. 5,292 ft.

Yount Lee Oil Co.'s No. 40 Cade, 430 ft. NW of No. 2-B, 360 ft. from E line of lease and in line with No. 39 and No. 2-B Fitzsimmons Sur.
T.D. 5,699 ft.; heaving shale.

Yount Lee Oil Co.'s No. 42 Cade, N. Fitzsimmons Sur., half way between Nos. 38 and 23 and 150 ft. E at right angles.
Derrick.

Yount Lee Oil Co.'s No. 22 Smith.
Drlg. sand and lime 4,125 ft.

Yount Lee Oil Co.'s No. 1 Maco Stewart, Martin Dunman Sur.
Drlg. 3,776 ft.

BATSON—HARDIN COUNTY

John A. Deering et al's No. 1 Hooks, Willis Donoho Sur., S extension test.
Drlg. 3,300 ft.

ARRIOLA—HARDIN COUNTY

Republic-Houston's No. 3-X Arriola fee, 2,150.7 ft. S of N line of lease and 150 ft. E of W line of Unit No. X or 400 ft. E of Republic's No. 6 Arriola fee in E. Arriola.
Comp.; T.D. 3,086 ft.; I.P. estimated 10 bbls.

Republic-Houston Oil Co.'s No. 8 fee.
Sand showing oil 5,042 ft.

SARATOGA—HARDIN COUNTY

Hines Bros.' No. 1 Coswell.
T.D. 3,340 ft.; W.O.C.

Rio Bravo Oil Co.'s No. 2-D Jordit, 200 ft. N of No. 9 Jordit.
Abd. 1,386 ft.

SOUR LAKE—HARDIN COUNTY

Alpha Pet. Co.'s No. 2 Weiss, E flank of dome.
Location.

Humble O. & R. Co.'s No. 1 Kirby et al, 140 ft. E W line and 300 ft. S N line of old Gulf 170-ac. tract, S. Jackson Sur.
Drlg. salt 7,311 ft.

Sun Oil Co.'s No. 2 Bernard Corp., 150 ft. from N and W lines of Lot 11, H.T.&B. Sur., Sec. 69.
Drlg. 1,850 ft.; (corrected).

Texas Co.'s No. 312 T. T. Co. fee, 200 ft. N and 200 ft. E of No. 302.
Set 10-in. csg. at 628 ft.

GOOSE CREEK—HARRIS COUNTY

Herring's No. 1 Williams, 180 ft. from SE cor. and 55 ft. NE of Hybush's No. 3, in W. Scott upper league.
Cellar.

Humble O. & R. Co.'s No. 80 Simms-Smith, Scott Lower League, 1,000 ft. E of the most westerly W line, and 300 ft. N of the most northerly S line.
Drlg. shale 5,691 ft.

PIERCE JUNCTION—HARRIS COUNTY

A. & P. Prod. Co.'s No. 8 Whitehead, 150 ft. S of No. 5; 50 ft. from E line of lease, J. Hamilton Sur.
Rigging up.

Benedum & Trees' No. 1 W. J. Settegast, 3,629 ft. from S line of Sur., and 100 ft. from E line of tract in the J. Kopman Sur.
Cutting and pulling screen and perforated pipe to 5,920 ft.

D. B. Cogswell's No. 1 Herman Hospital, 525 ft. W of NE cor., 200 ft. S of line of lease in J. Kopman Sur. No. A-185.
Set 7-in. csg. at 5,582 ft.; T.D. 5,644 ft.

Gulf Prod. Co.'s No. 10 H. C. Cain, 399 ft. S and 290 ft. E of NW cor. of lease and 217 ft. N of No. 9, J. Hamilton Sur No. 879 (workover).
Set strainer 5,920 ft.

Rio Bravo Oil Corp.'s No. 9-A Settegast, 1,575 ft. N line, 350 ft. E line NE cor. "A" lease, J. A. Kopman Sur.
T.D. 4,510 ft.; standing.

MYKAWA—HARRIS COUNTY

Danciger Oil & Ref. Co.'s No. 2 Minnetex, 150 ft. of N line and 85.9 ft. of E line of lease, Lot 253, Wm. Lovett Sur.
Rig up.

WesLen Prod. Co.'s No. 1 Erin, C of Lot 17, Erin Gardens Subd., F. J. Rothaas Sur.
Drlg. sand and gravel 1,100 ft.

TOMBALL—HARRIS COUNTY

Amerada Pet. Corp.'s No. 2 Ashley, Joseph House Sur.
Drlg. lime shells 4,186 ft.

Amerada Pet. Corp.'s No. 3 Fitz-Rudel, SW cor. of Fitz-Rudel tract in Joseph House Sur.
Comp.; I.P. 505 bbls. per day; ¼-in. choke; csg. pressure 900 lbs.; tubing pressure 800 lbs.

Amerada Pet. Corp.'s No. 6 Otto-Rudel, 562 ft. from S line, 1,539 ft. from E line on 50-ac. tract and 126.89-ac. lease in Joseph House Sur.
Drlg. sticky shale 3,762 ft.

Humble O. & R. Co.'s No. 2 Hampel.
Drlg. shell 5,580 ft.

Humble O. & R. Co.'s No. 1 John Holdereith, 500 ft. S line, 495 ft. E and W lines of 112.5-ac. lease, C. W. Pillott Sur. No. 632.
Set csg. 5,560 ft.

Humble Oil & Ref. Co.'s No. 2 J. Holdereith, 466 ft. S of most S line of cemetery and 572 ft. from E line of tract, C. N. Pillot Sur.
Derrick.

Humble O. & R. Co.'s No. 2 Martens.
T.D. 5,588 ft.; 2,000,000 ft. of gas.

Humble O. & R. Co.'s No. 4 Reid.
Comp.; no gauge.

Humble O. & R. Co.'s No. 5 Rudel-Oster, Joseph House Sur.
Cmtd. csg. 5,566 ft.

Shell Pet. Corp.'s No. 2 W. W. Baker, 630 ft. S of No. 1, J. House Sur.
Comp.; no gauge.

Sun Oil Co.'s No. 2-A Metzler.
Set 7-in. csg. at 5,548 ft.; T.D. 5,562 ft.; I.P. 39 bbls.; ¼-in. choke; comp.

Texas Co.'s No. 4 Hirsch, 945 ft. N and 466 ft. W of SE cor. of Wm. Hirsch Sur.
Drlg. sand 5,560 ft.

KITTRELL-HOUSTON AND WALKER COUNTIES

Boone Bros.' No. 1 Texas Long Leaf Lbr. Co., 330 ft. each way out of NW cor. of a 62-ac. tract, Charles McEllis Sur.
Location; cmtd. surface csg.

Boone Bros.' No. 2 Trinity State Bank, 660 ft. SE of NE, Charles McEllis Sur.
Drlg. 1,860 ft.

Crown Central Pet. Corp.'s No. 1 Texas Long Leaf Lbr. Co. and Thompson Bros., 150 ft. from W line, 150 ft. from N line of 40-ac. tract in J. S. Estheridge Sur., Abst. 399.
Location.

Hooper's No. 1 Duren, Duren Sur., Abst. 339, 330 ft. from NE line and center between NW and SE line or 1,945 ft. SE of Boone Bros.' No. 1 T.L.L.L. Co. well.
Waiting on wtr. well.

Humble O. & R. Co.'s No. 1 E. T. Shaw, 330 ft. from NE line and 330 ft. from SE line of E. T. Shaw 100-ac. tract, Chas. McEllis Sur.
Drlg. shale 1,730 ft.

Humble O. & R. Co.'s No. 1 Texas Long Leaf Lbr. Co., 330 ft. from SW line and 330 ft. from SE line of Texas Long Leaf Lbr. Co., 696-ac. tract, C. C. McEllis Sur.
Drlg. shale 342 ft.

Humble O. & R. Co.'s No. 2 Texas Long Leaf Lbr. Co., 330 ft. SW of NE line, 660 ft. SE of No. 3, Chas. McEllis Sur., Abst. 382.
Location.

Humble O. & R. Co.'s No. 3 Texas Long Leaf Lbr. Co., 130 ft. SE of NW line, 330 ft. SW of NE line, and 660 ft. NW of No. 2, Chas. McEllis Sur.
Location.

H. L. Hunt Prod. Co.'s No. 1 Starr, 330 ft. from SE line and 330 ft. from SW line of J. Walker Sur.
Drlg. wtr. well.

Lacy & Miller's No. 1 J. A. Hanner, 330 ft. from E line of lease, Wm. Dillard Sur.
Rig up.

Lawrence & Flannery's No. 1 Texas Long Leaf Lbr. Co., 355 ft. from NW line and 150 ft. from SW line of 20-ac. lease, Mary Milsap Sur.
Location.

Trinity Dev. Co.'s No. 1 G. A. Knox, 1,000 ft. from SE line and 500 ft. from SW line of Wm. Prissick Sur.
Rig up.

VANDERBILT—JACKSON COUNTY

Imperator Oil Co.'s No. 1 Dutton, S C of Lot No. 11, Blk. 25, 450 ft. S of R.R. and 1,350 ft. W line of townsite, Ray Musquiz Sur.
Rigged up and S.D.

Turman Oil Co.'s No. 1 T. H. Miller, 150 ft. each way out of E 50-ac. of Miller 100-ac. tract in Ray Musquiz Sur.
Rig up.

BIG HILL—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 1-A Pipkin, 2,640 ft. S and 2,050 ft. W of NE cor. of survey.
Derrick.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 15 Thomas, 200 ft. W of Gulf's No. 7 Burrell.
Drlg. cap rock 1,685 ft.

CLEVELAND—LIBERTY COUNTY

Gulf Prod. Co.'s No. 6-C Kirby, 2,796 ft. along N line of John Pleasants Sur. from NE cor. James Eldridge Sur. and 217 ft. E at right angles.
Set csg. 1,050 ft.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 14 Moores Bluff, 1,675 ft. S, 10 deg. 8 min. E of No. 10.
Drlg. shale and lime 2,431 ft.

General Crude Oil Co.'s No. 9 Davis, 1,200 ft. each way from S and E lines of lease in D. Kokernut Sur.
Drlg. shale 4,720 ft.

HANKAMER—LIBERTY COUNTY

George Devore et al's No. 1 S. E. Exell, 175 ft. S of Gulf's No. 1 and 165 ft. from E line of 175-ac. lease in Levi Barrow Sur.
Coring sand 2,602 ft.; show of oil.

HULL—LIBERTY COUNTY

G. R. Brown and S. F. Bashara's No. 1 David Hannah, Jesse Devore league, 100 ft. S line, 150 ft. E line, 42-ac. Gulf tract.
Derrick.

Gulf Prod. Co.'s No. 105 Phoenix, 1,154 ft. N, 200 ft. W of SE cor. of 300-acre tract in Jesse Devore Sur.
Drlg. shale 4,530 ft.

SOUTH LIBERTY—LIBERTY COUNTY

Humble O. & R. Co.'s No. 10 Welder, Duncan Sur., 400 ft. S of No. 9.
Drlg. shale 4,918 ft.

BUCKEYE—MATAGORDA COUNTY

United North & South Dev. Co.'s No. 1 Unit 4, Buckeye farm, J. C. Keller league, 214 ft. N line and 202 ft. E line of lease.
T.D. 7,581 ft.; P.B. 7,370 ft.; swbd. little oil and S.W.

United North & South Dev. Co.'s No. 1 Plotner, 1,210 ft. SE No. 1 Stoddard and 136 ft. W of right of way S.T.L.&B.M.Ry. Sur.
Drlg. sandy shale 7,912 ft.

United North & South Dev. Co.'s No. 1 Unit No. 58, 250 ft. N and 200 ft. W of SE cor. of Unit No. 58.
Drlg. sandy shale 7,900 ft.

MARKHAM—MATAGORDA COUNTY

Hawkins Oil Co.'s No. 1 Hawks fee, 1,350 ft. from N line and 1,650 ft. from E line of 20-ac. lease.
T.D. 600 ft.; derrick down.

Powers Prod. Co.'s No. 4 Myers, in line with wells Nos. 1 and 2, being 250 ft. E of No. 2.
Derrick down.

Rio Bravo Oil Co.'s No. 1 Sisk, 660 ft. N, 650 ft. W SE cor. of R. J. Sisk's 158-ac. tract in Lot 2, Wm. Haddon league.
Abd. 3,209 ft.

VAN VLECK—MATAGORDA COUNTY

Skelly Oil Co.'s No. 2 F. G. Cobb, 1,185 ft. E of W line and 2,515 ft. N of S line of F. G. Cobb lease in Marie Cummings Sur.
Recovered sand showing some saturation; prepare to make D.S. test.

CONROE—MONTGOMERY COUNTY

Cameron & Cameron's No. 1 Dudley, 8 offset to Strake's No. 1 Hammond.
S.D. 5,051 ft.

Humble O. & R. Co.'s No. 1 Madeley State Land, Ransom House Sur., 150 ft. N offset No. 28 Madeley.
Drlg. shale 5,136 ft.

Humble Oil & Ref. Co.'s No. 53 H. N. Moore, 1,256 ft. SW of No. 24, 325 ft. NE of No. 47, 219 ft. from N line of lease, 353 ft. N of Alpha's No. 3-B Keystone Mills, L. Smith Sur.
Comp.; I.P. 30 bbls. per hr.; ½-in. choke; T.D. 5,085 ft.

Strake Pet., Inc.'s No. 3-B Dean, 729.5 ft. N of No. 2-B and 500 ft. S of the N line of lease, W. C. C. Lynch Sur.
Drlg. 4,000 ft.

ORANGE—ORANGE COUNTY

Trio Oil Co.'s No. 1 D. S. Comier, 69 ft. W of E line and 39 ft. S of N line of 6.83-ac. tract in W. M. Dyson Sur.
Prepare to spud.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 6 Kuhn, 150 ft. E, 150 ft. N of SE cor. of Mary Hall Sur.
Moving in material.

Texas Co.'s No. 8 Kuhn, 1,320 ft. N and 250 ft. E of SE cor. of Mary E. Hall Sur. No. 2 in T. J. Notgrass Sur.
Drlg. sand and lime 4,550 ft.

Texas Co.'s No. 9 Kuhn, 990 ft. N and W of SE cor. of Mary E. Hall Sur. No. 2.
Set 13⅜-in. csg. at 1,986 ft.

Smith & McDannald's No. 1 Davis & Holmes, 1,486 ft. from N line, 330 ft. from W line of 40-ac., A. Viesca Sur.
Drlg. shale 1,414 ft.

LIVINGSTON—POLK COUNTY

T. D. Humphries' No. 1 J. C. Whitforth, Block H.
Derrick.

Sun Oil Co.'s No. 1 Pratt, A. Viesca Sur., 330 ft. N line and 330 ft. E line of lease.
Prepare to cmt. csg. 4,243 ft.

J. Z. Werby et al's No. 3 Dick & Failing, 330 ft. from SW line of 160-ac. tract, A. Viesca Sur.
Comp.; T.D. 4,263 ft.; P.B. to 4,243 ft.; I.P. 87 bbls. in 12 hrs.; ¼-in. choke.

GRETA—REFUGIO COUNTY

Atlantic Oil Prod. Co.'s No. 6-G O'Brien 400 acres, 933 ft. N of No. 5-G, Winfield Sur.
Comp.; T.D. 4,391 ft.; I.P. 107 bbls.; 8/64-in. choke; tubing pressure 240 lbs.; csg. pressure 400 lbs.

Atlantic and Stanolind's No. 7-G O'Brien.
Derrick.

Circle W Oil Co.'s No. 11 J. M. O'Brien, Crunk Sur.
Location.

Hewitt & Daugherty's No. 9 M. F. Lambert, 466 ft. from N line and midway between E and W lines of Blk. 16, Hardwick Sur.
T.D. 3,525 ft.; I.P. 300 bbls. per day.

Hewitt & Daugherty's No. 12 Lambert.
Rigging up.

Humble Oil & Ref. Co.'s No. 8 F. W. V. Heard, 1,490 ft. from E line, 1,334 ft. from N line of 337-ac. lease in Crunk Sur.
Drlg. sand 4,382 ft.

Humble Oil & Ref. Co.'s No. 9 Fannie Heard, 933 ft. E of No. 7, 1,150 ft. S of No. 8.
Drlg. shale 1,231 ft

Humble Oil & Ref. Co.'s No. 12 J. F. B. Heard, 3,251 ft. from S line, 2,542 ft. from W line of lease.
Drlg. shale 3,188 ft.

Humble Oil & Ref. Co.'s No. 11 M. F. Lambert, 506 ft. from W line, 466 ft. from N line of No. 17-B, Hardwick Sur.
Comp.; no gauge.

Stanolind O. & G. Co.'s No. 4-A O'Brien, 1,000 ft. from N line, 800 ft. from S line of 79.8-ac. lease, Peoples Sur.
Drlg. 1,100 ft.

Stanolind O. & G. Co.'s No. 3 J. M. O'Brien, Peoples Sur.
Moving in rig.

United Prod. Co.'s No. 14 Fox (D.D.), 466 ft. from N line of 848-ac. tract and 1,060 ft. W of No. 11, Wm. Hews and L. Brown Sur.
Cmtd. csg. at 3,460 ft.

United Prod. Co.'s No. 10 M. F. Lambert, Charles Hardwick Sur., 466 ft. from S line, 506 ft. from E or W line of Blk. 17.
Preparing to set surface csg.; drlg. sticky
Drlg. shale 3,496 ft.

United Prod. Co.'s No. 11 M. F. Lambert, E. W. Hardwick Sur., 434 ft. from S line, 506 ft. from E line of Blk. 3.
Cmtd. surface csg. 1,219 ft.

United Prod. Co.'s No. 12 M. F. Lambert, Hardwick Sur., 469 ft. from S line, 506 ft. from W line of Blk. 4.
Drlg. shale 1,905 ft.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 9 Wilson Heard, Refugio Sur., 546 ft. N line, 150 ft. W line.
T.D. 3,665 ft.; (work over).

Houston Oil Co.'s No. 9 W. J. Heard, 2,500 ft. S, 2,700 ft. E, NW cor. of lease.
Old well; T.D. 3,718 ft.; D.D.

Houston Oil Co.'s No. 16 W. J. Heard, 660 ft. SE of No. 15.
T.D. 4,915 ft.; 15 bbls. on choke; comp.

United Prod. Co.'s No. 8 J. A. Lambert, 555 ft. N of NW cor. of W. Heard tract and 156 ft. W of tract line, L. M. Rogers Sur.
Drlg. sand 6,905 ft.

United Prod. Co.'s No. 9 Shelly Ryals, Refugio Town tract, 1,475 ft. W of E line, 200 ft. N of S line of tract.
T.D. 3,521 ft.; comp. dry gas well.

COLETTA CREEK—VICTORIA COUNTY

American Liberty Oil Co.'s No. 1 Terrell.
Drlg. 4,100 ft.

Albert Plummer's No. 2 Terrell, 628 ft. from NW line, 330 ft. NE line of 57-ac. tract, Manchola Sur.
T.D. 1,326 ft.; trying to shut off gas.

Nutex Oil Co.'s No. 1 Zimmer, Manchola Sur.
T.D. 2,339 ft.; top sand 2,307 ft.; tested 425 ft. of oil in 10 minutes; drlg. plug.

Albert Plummer's No. 1 Zimmer, 330 ft. NE and SE lines of lease in Manchola Sur. T.D. 3,566 ft.; lost hole 3,460 ft.; sidetracking 1,400 ft.

KEERAN—VICTORIA COUNTY

Gulf Prod. Co.'s No. 6 Keeran, begin at intersection of R.R. and SW line of survey, thence NE along R.R. 6,257 ft., thence NW at R/A 2,539 ft. in M. DeLeon Sur. Drlg. sand 5,870 ft.

McFADDIN-O'CONNOR DISTRICTS—VICTORIA AND REFUGIO COUNTIES

Humble Oil & Ref. Co.'s No. 2 McFaddin. C. O. Edwards Sur.
Drlg. shale 2,293 ft.

Humble Oil & Ref. Co.'s No. 16 O'Connor 933 ft. N by 45 deg. E of well No. 15. F. Rois Sur.
Drlg. shale 2,916 ft.

Texas Co.'s No. 2 McFaddin, 9,150 ft. S and 200 ft. at R/A out of NW cor. of C. M. B. Hoyt Sur.
Drlg. 5,330 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 10 Janner.
Coring 1,378 ft.

Sun Oil Co.'s No. 2 Kubel.
Coring shale 1,850 ft.

LOUISE—WHARTON COUNTY

Pure Oil Co.'s No. 1 Adams, T. W. Heard Sur., Sec. 26, Abst. 465, 471 ft. NW cor., 467 ft. from SW line out of most westerly NW cor. of section.
Coring shale 5,142 ft.

Pure Oil Co.'s No. 2 Stewart, Morris & Cummings Sur., Sec. 25, 990 ft. out of SW cor. of 160 acres.
Drlg. sand and lime 7,152 ft.

SOUTH LOUISIANA FIELDS

BLACK BAYOU—CAMERON PARISH

Brownie Dabbette Oil Co.'s No. 1 R. A Moore, 562 ft. W, 50 ft. S of NE cor. of E½ of SE Sec. 18-12s-12w.
Fishing 6,928 ft.

Shell Pet. Corp.'s No. 3 State.
Washing to bottom 6,141 ft.

Shell Pet. Corp.'s No. 20 Watkins, 1,611 ft. S and 276 ft. W of NE cor. Sec. 18-2s-12w. Location.

BOSCO—ACADIA AND ST. LANDRY PARISHES

Superior Oil Co.'s No. 2 Comeaux, 1,876 ft. S and 467 ft. W of NE cor. Sec. 34-8s-3e. Derrick.

Superior Oil Producing Co.'s No. 1 Sidney Fail, 543.9 ft. W and 511.4 ft. N of SE cor. Sec. 27-8s-3e.
Set 9⅝-in. csg. at 7,829 ft.; T.D. 7,855 ft. Comp.; I.P. 850 bbls. per day; three 1/64-in. chokes on tubing; 1/64-in. csg.; tubing pressure 825 lbs.; csg. pressure 2,550 lbs.; making 5% b.s. and wtr.

Superior Oil Co.'s No. 3 Hermances, 1,175 ft. S, 597 ft. E of NW cor. Sec. 34-8s-3e.
Drlg. sandy shale 6,869 ft.

Superior Oil Prod. Co.'s No. 1 Adras Guilbeau, 492.6 ft. E and 508.2 ft. S from NW cor. of SW Sec. 26-8s-3e.
Drlg. sand and shale 8,111 ft.

Superior Oil Co.'s No. 3 Iseringhauser, 1,817 ft. E, 330 ft. N of SW cor. Sec. 27 Location.

Superior Oil Co.'s No. 1 Matancon, 375 ft. S and 63 ft. E of NW cor. SW Sec. 34-8s-3e. Rig up.

Superior Oil Prod. Co.'s No. 1 Walter V. Larcade, 462.4 ft. N and 500.2 ft. S of NW cor. of Sec. 35-8s-3e.
Set 9⅝-in. csg. 7,834 ft.; T.D. 7,849 ft.

Superior Oil Co.'s No. 2 Larcade, 503 ft. N and 1,197 ft. E, SW cor. Sec. 26-8s-3e.
Set 13⅜-in. csg. at 1,347 ft.

Superior Oil Prod. Co.'s No. 1 Euclide LeBlanc, 1,873 ft. S and 673.2 ft. W of NE cor of Sec. 32-8s-3e.
Drlg. sandy shale 7,541 ft.

Superior Oil Prod. Cor.'s No. 1 Lucien Lavergne, 596 ft. E and 330 ft. N of SW cor. of Sec. 27-8s-3e.
Drlg. sand and shale 5,295 ft.

Superior Oil Prod. Co.'s No. 1 Moise Lavergne, 269.7 ft. W and 98 ft. N of SE cor. of Sec. 28-8s-3e.
Derrick.

Superior Oil Prod. Co.'s No. 1 Auguste Martinez, 2,510.6 ft. S and 1,067.2 ft. W of NE cor. of Sec. 35-8s-3e.
Set 7-in. csg. on bottom; showed oil from 9,320-35 ft.; T.D. 9,325 ft.
Perforated 7-in. csg. at 9,152-68 ft.

Superior Oil Co.'s No. 1 Trahan, 1,392 ft. N, 543 ft. W of SE cor. Sec. 27.
Derrick.

Superior Oil Co.'s No. 2 Hermandes, 329 ft. from S line, 669 ft. W of NE cor. of NW of Sec. 34-8s-3e.
Derrick.

Superior Oil Co.'s No. 2 Iseringhauser, 689 ft. from W line, 330 ft. from N line of 31.86-acre tract, Sec. 35-8s-3e.
Sand and shale 1,227 ft.

Superior Oil Co.'s No. 1 L. Johnson, 1,623 ft. N and 762 ft. E of SW cor. of NE of Sec. 34-8s-3e.
Drlg. broken lime 7,311 ft.

Superior Oil Co.'s No. 3 Larcade, 542 ft. E and 500 ft. N of SW cor. of Sec. 36-8s-3e. Derrick.

CAILLOU ISLAND—TERREBONNE PAR.

Texas Co.'s No. 12 State Caillou Island 2,420 ft. E and 73 ft. S of NW cor. of Sec 20-23s-20e.
T.D. 4,796 ft.; sidetracked 1,600 ft.; setting screen.

Texas Co.'s No. 14 State-Caillou Island, 1,514 ft. E and 2,628 ft. S, NW cor. Sec. 20-23s-20e.
Drlg. shale 3,240 ft.

CAMERON MEADOWS—CAMERON PAR.

Burton-Sutten Oil Co.'s No. 4 School Land 2,891 ft. W and 150 N of SE cor. of Sec 16 4s-13w
Pulling tubing to re-plug back pressure valve in attempt to complete; T.D. 4,537 ft.

Texas Co.'s No. 1 Miami Corp.
T.A. 5,520 ft.

EDGERLY—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Hunter, 1,366 ft. N 425 ft. W of SE cor. SW Sec. 21-9s-11w.
Cmtd csg. 6,025 ft.

DOG LAKE—TERREBONNE PARISH

Texas Co.'s No. 11 State, 150 ft. N and 1,474 ft. W, SE cor. Sec. 31-21s-16e.
Building derrick.

Texas Co.'s No. 15 State, 2,602 ft. N and 1,368 ft. W, SE cor. Sec. 31-21s-16e.
Rig up.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 6, Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 34-11s-1w.
Drlg. sandstone 9,068 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 2 Hansen, 400 ft. W and 200 ft. S of No. 1 in Sec. 14-12s-10w
Prepare to drill plug; T.D. 5,995 ft.

Gulf Ref. Co.'s No. 15-A M. P. Irwin, 368 ft. N and 241 ft. W of the SE cor. of Sec. 12-12-10.
Drlg. shale 5,885 ft.

Wilfred LaHay's No. 1 Roux, Sec. 36-12s-10w.
Shale 3,986 feet.; S. D.

Texas Co.'s No. 13-B State, 500 ft. SE of No. 10-B or 1,360 ft. E and 140 ft. S of NE cor. of Sec. 13-12s-10w.
Cmtd. csg. 5,800 ft.

Texas Co.'s No. 13-B State, 400 ft. N of NE cor. of lease, Sec. 13-12s-10w. Location.

Union Sulphur Co.'s No. 1 Barbee est., 1,720 ft. N line, 330 ft. E of SW cor. Sec. 12-12s-10w.
Cutting out csg.; T.D. 7,986 ft.

Union Sulphur Co.'s No. 9 Humble, 300 ft. E and slightly N of No. 1 well, or 330 ft. N and 270 ft. E of the SW cor. of Sec. 12-12s-10w.
Drlg. shale and lime 4,374 ft.

Yount Yee Oil Co.'s No. 1-A Gulf Land, 2,000 ft. S and 50 ft. E of the NW cor. of Sec. 22-12-10.
Rig up.

Yount Lee Oil Co.'s No. 2-A Gulf Land, 1,100 ft. S and 50 ft. E of the NW cor. of Sec. 21-12-10.
Rig up.

Yount Lee Oil Co.'s No. 15-A Gulf Land, 1,160 ft. S and 715 ft. W of the NE cor. of the SW of Section 16-12-10.
Drlg. gravel 1,740 ft.

Yount Lee Oil Co.'s No. 1 School Land, 1,160 ft. S, 715 ft. W of NE SW of Sec. 16-12-10w.
No report.

NEW IBERIA—IBERIA PARISH

I. Delcambre's No. 1 Viatar, 150 ft. E, 150 ft. S and 150 ft. W of SE cor. of tract, Sec. 41-12s-5e.
Fishing 245 ft.

Harrison & Abercrombie's No. 1 J. E. Schuring, 3,480 ft. S 75 deg. 25 min. west along section line from E cor. of fractional Sec. 44-12s-8e, and thence 1,121 ft. N 11 deg. 35 min. W, or at R/A to said line in Sec. 56-12s-7e.
Sidetracking at 2,400 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Magnolia Pet. Co.'s No. 9 Walt, 330 ft. E and S of the C of the lease, and is N of No. 8 Walt.
Connecting up 6,882 ft.

Magnolia Pet. Co.'s No. 3 Willett, 335 ft. from S line, 990 ft. from W line of NW Sec. 7-9s-6w.
T.D. 5,728 ft.; changing drill pipe.

Shell Pet. Corp.'s No. 2 C. L. Johnson, 330 ft. out of SE cor. of 30-ac. lease, and off set to Magnolia's No. 6 B. T. Walt
Comp.; T.D. 6,974 ft.; I.P. 1,570 bbls.; tubing pressure 1,235 lbs.; csg. pressure 1,225 lbs.

Shell Pet. Corp.'s No. 1 Scott, 330 ft. out of NW cor. of lease.
P.B. to 4,850 ft.; T.D. 7,267 ft.

Shell Pet. Corp.'s No. 5 Stratford, 1,094 ft. S, 330 ft. E of NW cor. of Sec. 18. Cmtd. 7-in. csg. at 6,850 ft.; T.D. 6,909 ft.

Shell Pet. Corp.'s No. 3 Ardoin, 990 ft. S and 300 ft. E of NW cor. S½ NW Sec. 18-10s-6e.
Coring sand 6,177 ft.

Shell Pet. Corp.'s No. 3 Tuten, 1,159 ft. W and 330 ft. from S of NE cor. SE Sec. 13-9s-6w.
Rig up.

Shell Pet. Corp.'s No. 3 Willett, 300 ft. N and 990 ft. S of SW cor. of NW cor. of Sec. 7-9s-6w.
Rig up.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 14 Houslerre-Latrielle, 260 ft. N of No. 13, Sec. 47-9s-2w.
Drlg. anhydrite 5,264 ft.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 10 L.L.&E., 4,543 ft. S, 503 ft. W of NW cor. Sec. 30-21s-20e.
Drlg. shale 3,738 ft.

Texas Co.'s No. 11 L.L.&E., Sec. 30-21s-20e
Drlg. shale 3,672 ft.

Texas Co.'s No. 12 L.L.&E.
Derrick.

Texas Co.'s No. 26 Lake Barre, 150 ft. N from No. 22. Sec. 30-21s-20e.
Drlg. 5,294 ft.

LAKE HERMITAGE—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 2 LaFourche Basin Levee Dist.
Drlg. 3,543 ft.

LAKE PELTO—TERREBONNE PARISH

Texas Co.'s No. 11 Lake Pelto, 1,000 ft. SW of No. 5.
T.D. 5,511 ft.; P.B. 3,534 ft.

Whitstone O. & G. Co.'s No. 1 Buckley, 300 ft. S and E of NW cor. SW SW Sec. 21-19s-16e.
S.D. 2,700 ft.

LAKE WASHINGTON—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 23 Cockrell-Moran, 650 ft. N and 21 deg. 30 min. E of No. 2 in Twp. 20s-26e.
Drlg. 1,523 ft.

Humble O. & R. Co.'s No. 24 Cockrell-Moran, 400 ft. E, 100 ft. S of Freeport Sulphur's No. 11 Cockrell-Moran, SE of Sec. 24-20s-26e.
Drlg. 1,473 ft.

LEESVILLE—LAFOURCHE PARISH

Robert Bowles' No. 1 Crosby.
T.D. 4,525 ft.; P.B. 1,800 ft. and drilled to 3,880 ft.; D.S. stuck.

Robert Bowles' No. 3 Crosby, 2,408 ft. N and 1,427 ft. E of SW cor. of Lot 6, Sec. 26-21s-22w.
Drlg. shale 3,737 ft.

Emerald Pet. Co.'s No. 7 State of Louisiana.
Derrick.

Gulf Prod. Co.'s No. 3 Bernard, midway between Gulf's No. 3 and No. 7 on L. Bernard lease, 48 ft. from NS line of lease, Sec. 26-21s-22e.
Derrick.

Gulf Prod. Co.'s No. 8 Bernard, 568 ft. E along S line of 5.08-ac. tract from SW cor. and 446 ft. N at right angles, Sec. 26-21s-22e.
Drlg. shale 3,990 ft.

Emerald Pet. Co.'s No. 8 State of La., 454 ft. N of No. 1.
T.D. 5,208 ft.; P.B. to 1,150 ft.; drlg. shale 1,658 ft.

Emerald Pet. Co.'s No. 10 State, west bank. 300 ft. S of well No. 1.
Location.

Emerald Pet. Co.'s No. 11 State, east bank. 227 ft. N of well No. 1.
Location.

Emerald Pet. Co.'s No. 12 State, east bank. 250 ft. S of well No. 1.
Location.

Frank L. Hill's No. 1 Bernard, 1,422 ft. N and 808 ft. E of SW cor. Sec. 26-21s-22e
S.D. 3,670 ft.

Leesville Oil & Gas Co.'s No. 1 Southern Louisiana Canal Navigation Co., 35 ft. W of Bank of Bayou, 15 ft. N of S bank, Sec. 26-21s-22e.
Drlg. shale 2,900 ft.

Lincoln Oil Co.'s No. 4 State, 350 ft. N and 1,040 ft. E of SW cor. of Lot 6, Sec. 26-21s-22e.
Drlg. 3,876 ft.

Lincoln Oil Co.'s No. 1 Constantine.
Reaming to set csg. 3,765 ft.

Prince Oil Co.'s No. 3 Deambre Nical, 1,387 ft. E and 2,275 ft. N of SW cor. Lot 6, Sec. 26-2s-22e.
T.D. 3,884 ft.; cmtd. csg.

Texas Co.'s No. 20 L.L.&E., Sec. 27-21s-22e
Rigging up.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 12 Bordages, 964 ft. W and 93 ft. N of SE cor. N¼ NE Sec. 8-10s-19w.
No report.

Union Sulphur Co.'s No. 1 Moss (W.O.).
Drlg. sand and rock 6,934 ft.

Union Sulphur Co.'s No. 1 Farquaher, 200 ft. S and W lines, NE cor. SW SE Sec. 36-12s-10w, 2-ac. tract.
Cmtd. csg. 6,715 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Prod. Co.'s No. 1 Wilson-Cochran, 600 ft. S along property line and 150 ft. E of most southerly NE cor. of Texas Co.'s Botnay Bay Lbr. Co. lease.
Drlg. shale 3,300 ft.

Phillips Pet. Co.'s No. 1 Sibille, 3,063 ft. S from R.R. along W line of Sibille Co., Inc., 180-acre tract and 50 ft. E in Sec. 7-6s-6e.
Drlg. shale and lime 4,350 ft.

Texas Co.'s No. 24 Botney Bay, 600 ft. S along E line, 150 ft. W at R/A from most southerly NE cor. of Botany Bay Lumber Co. lease, Sec. 4-6s-5e.
Rig up.

Texas Co.'s No. 22 Botany Bay, 450 ft. due E of No. 2, Sec. 4-6s-5e.
Comp.; T.D. 1,368 bbls. per day; T.D. 3-228 ft.

ROANOKE—JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 3 Devilbiss, 1,399 ft. W, 466 ft. S of NE cor. Sec. 14-9s-4w.
Fishing; T.D. 8,746 ft.

Humble O. & R. Co.'s No. 1-B Devilbiss.
Drlg. sand 5,491 ft.

Humble O. & R. Co.'s No. 1 Martin Kratzer, 400 ft. out of SE cor. 120-ac. tract, Sec. 14-9s-4w.
Cmtd. csg. 8,330 ft.

Shell Pet. Corp.'s No. 1 Jarnigan, 330 ft. E, 660 ft. S, NW cor. Sec. 12-9s-4w.
Running screen and 2½-in. tubing; T.D. 8,764 ft.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 26 United Land
Drlg. 4,475 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 770 fee (D.D.).
T.D. 4,332 ft.; P.B. to 4,014 ft.

Union Sulphur Co.'s No. 795 fee.
Drlg. sand 5,720 ft.

Union Sulphur Co.'s No. 801 fee, 1,862 ft. N, 670 ft. E of C of Sec. 29-9s-10w.
Coring sand 2,873 ft.

Union Sulphur Co.'s No. 802 fee, 908 ft. N, 1,340 ft. E of C of Sec. 29-9s-10w.
Drlg. shale 4,816 ft.

Union Sulphur Co.'s No. 805 fee.
Drlg. sandy shale 3,066 ft.

Union Sulphur Co.'s No. 2 Kelly, 1,345 ft. S, 198 ft. W of the NE cor. of Sec. 30-9s-10w.
Drlg. sandy shale 4,994 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 12 Yount Lee fee, 800 ft. S of No. 11, in line with Nos. 9 and 10. Sec. 12-12-3w.
T.D. 7,429 ft.; temp. S.D.

VINTON—CALCASIEU PARISH

Gulf Ref. Co.'s No. 68 G.N.G.
Comp.; I.P. 5 bbls. per hr. on pump; T.D. 3,694 ft.

Trio Oil Co.'s No. 2 Gray, 233 ft. N and 22 ft. W of SE cor. of NE SW NE Sec. 33-10s-12w.
Drlg. shale 3,607 ft.

Vinton Oil Co.'s No. 1 J. G. Gray, 230 ft. from N line and 545 ft. from E line of SE NE Sec. 4-11s-12w.
Drlg. 1,886 ft.

Vinton Pet. Co.'s No. 2 Mathilda Gray, 100 ft. N of No. 1 and in Sec. 33-10s-12w. (W.O.); T.D. 3,225 ft.; W.O.C.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 9 Wilburn, 300 ft. E of No. 7.
T.D. 7,517 ft.; prepare to wash.

MISCELLANEOUS WILDCATS TEXAS

ANGELINA COUNTY

Thayer et al's No. 1 Dearmond, J. T. Peavy Sur., 2½ miles SE of Zavalla.
Hard lime 1,915 ft.; T.D.

BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 1 Houston Farm Dev. Co., 1,414 ft. N, 316 ft. W of SE cor. of L. Bachelder Sur.
Drlg. shale and lime 6,615 ft.

Devonian Oil Co.'s No. 1 J. M. Fagan heirs, Peter Teal League, 9,000 ft. from N line, 466 ft. W of E line, Abst. No. 112.
Rigging up.

Harrison & Abercrombie's No. 1 Bernard River Land, 1,000 ft. out of SE cor. of Lot 23
S.D. 7,340 ft. in shale; D.S. stuck.

Gillock Pet. Co.'s No. 1 Frank Trukse, 300 ft. from S and 1,000 ft. from E lines of 75-ac. tract, Sec. 7, H.T.&B.R.R. Sur.
Coring sand 6,333 ft.

Holt et al's No. 1 Griffith, J. B. Bailey Sur.
T.D. 4,200 ft.; waiting orders.

Turnbull & Irwin's No. 1 Braden, H.T.&B. Sur., SE of Sec. 50, 4 miles SE of Juliff.
Drlg. 5,107 ft.

BRAZOS COUNTY

Buck Wallace's No. 1 Broach, 1,000 ft. from S line, 400 ft. from W line of 251-ac. tract in G. W. Singleton Sur.
T.D. 369 ft.; S.D.

CALHOUN COUNTY

Continental Oil Co.'s No. 1 American Nat. Realty Co., C of NE of Sec. 6, Blk. C.
Fishing; T.D. 6,625 ft.

Herman Heep's No. 3 Welder.
Fishing 5,740 ft.

COLORADO COUNTY

Coyle-Concord Oil Co.'s No. 1 Nelson, 3,300 ft. SE of NW cor. of Sec., 2,200 ft. SW at right angles in I.&G.N. Sur.
S.D. 6,194 ft.

Steen Drlg. Co.'s No. 1 Stanzel, 500 ft. along N line from NW cor., thence 350 ft. at R/A of 371.2-ac. tract, A. E. Parra Sur.
Drlg. shale and lime 2,375 ft.

FORT BEND COUNTY

Humble O. & R. Co.'s No. 1 Mrs. Anna Hackstedt, 466 ft. at right angles from SE and SW lines 246.9-acre tract in Robert Hodges Sur.
Abd. 6,015 ft.

W. A. Shafer et al's No. 1 V. B. Bortash, 693 ft. SW of NE line and 1,003 ft. NW of SE line of Sec. 52, H.&T.C. Sur.
No report.

Vico Oil Co.'s No. 1 H. R. Darst, 5,650 ft. N of S line and 635 ft. W of E line of E. Powell Sur.
No report.

Wilks et al's No. 1 Norris, 300 ft. W and 1,352 ft. S of N cor. of 525-ac. tract (5 miles S of Needville).
Rigged up and S.D.

GALVESTON COUNTY

Gillock Pet. Co.'s No. 2 Maco Stewart, 300 ft. N and 150 ft. W of No. 1, Alex Farmer Sur.
Rig up.

H. E. Sedberry, trustee's No. 1 Thomas Shaw (200 acres), 150 ft. NW line, 165 ft. NE line, Lot 66, Sec. 7, Hall & Jones. Galveston Island.
S.D. 53 ft.

Humble O. & R. Co.'s No. 1-B Stewart, 415 ft. S of Dickinson Bayou, 460 ft. E of E line of Blk. 16, Beatty Subd., John Sellers Sur.
Drlg. shale 5,028 ft.

Pure Oil Co.'s No. 1 J. W. Sheior (331.2 acres), 2,760 ft. S of Dickinson-San Leon highway and midway E and W lines of lease, B.B.B.&C. Sur.
Drlg. lime 5,215 ft.

GRIMES COUNTY

Hubert Holt et al's No. 1 Simon Fuqua, 1,200 ft. N of S line and 400 ft. W of E line of 177-ac. lease and survey, Moses Evans Sur.
Location.

Dr. Marshall et al's No. 1-B Todd, 300 ft. from E line and 175 ft. from N line of 156-ac. tract in extreme NW cor. of county (25 ft. N of No. 1).
Laying water line; T.D. 880 ft.

W. D. Roan et al's No. 1 D. C. Kelly, 1,533 ft. from N line and 168 ft. from E line of U. Sanders Sur., near Carlos.
T.D. 2,360 ft.

J. H. Woodward et al's No. 1 O. A. Hamilton, center of Hamilton 98.5-ac. tract 8 of Richards in the O. Hill Sur.
S.D. 3,290 ft.

HARRIS COUNTY

American Liberty Oil Co.'s No. 1 Sweeney, Sec. 17, W.C.R.R. Sur.
Set surface csg. at 521 ft.

C. B. Bunte, Inc.'s No. 1 Laura Lackner, 6,400 ft. from E line, 194 ft. from S line of Henry Reinerman Sur., near NW city limits of Houston.
Spudded.

C. C. Foster and others' No. 1 H. K. Johnson, 2,000 ft. from S line and center of E and W lines of G.C.&S.F. Sur.
Drilled 25 ft. and S.D.

Farrell Bros. Co.'s No. 1 Brooks Est., 7,400 ft. S and W of NE cor. of R. & R. Vines Sur.
Cmtd. csg. 412 ft.

W. U. Paul's No. 1 E. M. House, 2,300 ft. N and 1,000 ft. E of NE cor. of E. Benson Sur. in M. Magruder Sur.
S.D. 2,846 ft.

JEFFERSON COUNTY

Magnolia Pet. Co.'s No. 1 E. Herbert Trust 990 ft. N, 330 ft. E of SW cor. of P. H Bell Sur. No. 2.
Drlg. wtr. sand 7,391 ft.

Sun Oil Co.'s No. 1 H. Long, 1,500 ft. N line, 930 ft. E line of lease.
T.D. 8,594 ft.; P.B. and sidetracked at 6,304 ft.; drlg. 6,500 ft.

LIBERTY COUNTY

R. M. Bruner et al's No. 1 N. Bell, 150 ft. from N line and 150 ft. from W line of Bell's 187-ac. tract, H.&T.B. Sur. No. 4.
Rigging up.

Extension Oil Co.'s No. 1 J. A. Lovett, 394 ft. from E and 600 ft. from S line of lease P. P. Deevers Sur.
No report.

Liberty-Independent Oil Co.'s No. 1 J. M. Neal, 3,550 varas from E line and 500 varas from N line of Samuel Strong Sur.
S.D. 4,300 ft.

Magnolia Pet. Co.'s No. 1 Mace Stewart, 2,600 ft. E and 1,370 ft. S of NW cor. of 350-ac. tract in A. Cherry Sur.
Drlg. sandy shale 5,488 ft.

A. L. Maxwell's No. 1 M. D. Hinciiff, 300 ft. from E line and 1,000 ft. from N line of H.&T.C. Sur. No. 150.
Location.

Thomas et al's No. 1-A Eicke, 660 ft. from W line and 2,350 ft. from S line of tract in Green Sur.
Fishing 5,158 ft.

Turnbull and Irwin's No. 1 Lynott and Buffum, 466 ft. S and E of NW cor. of SE 100 acres of W 400 acres of 856-ac. tract, James Robeson Sur.
Drlg. 3,103 ft.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Robbins, J. C. Franz Sur.
Washing to bottom; T.D. 6,700 ft.

Dr. Griffith's No. 1 fee, 3,000 ft. from N line and 3,000 ft. from W line of Wm. E. Bell Sur.
Rig up and S.D.

Powers Prod. Co.'s No. 1 Northern Irrigation Co., 300 ft. E and 125 ft. N of Sec. of Lot No. 5, Blk. 9, T.&G.N. Sur.
T.D. 5,000 ft.; heaving shale; prepare to abd.

MONTGOMERY COUNTY

Brown & Wheeler et al's No. 1 Jones, 440 ft. out of NW cor. of S 175 acres of 350-ac. tract.
Location.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 360 ft. from E line and 150 ft. from NE line of Godwin 20-ac. tract.
T.D. 2,986 ft.; moving in heavier rig.

Texas Louisiana Oil Co.'s No. 1 Starks, 2,450 ft. N of NW cor. M. Delano Sur. 61, 10,-500 ft. E at R/A.
T.D. 5,055 ft.; S.D.

POLK COUNTY

Howard Dailey et al's No. 1 Z. B. Knox, 1,450 ft. W and 1,920 ft. S of NE cor. of F. Chairs Sur., 1½ mile NE of Corrigan.
S.D. 60 ft.

J. F. Anderson's No. 1 E. L. Duke (O.W.D. D.), 400 ft. from E and 350 ft. from S of SW cor. of P. Michelick 50-ac. lease, Abst. 50, P. J. Mineral Sur.
Waiting on a new mud pump; T. D. 5,-304 ft.

Johnson Bros.' No. 1 J. F. Smith, Isaac Parker Sur., 330 ft. from S and E lines from J. F. Smith's 55-ac. tract.
Rig up.

Alpha Pet. Co.'s No. 1 Martha E. Roberts, 2,000 ft. W and 5,000 ft. S of most western SW cor. of P. A. Sublett Sur., J. F. DeRumayor Sur.
Rig up.

REFUGIO COUNTY

Heard-Holland Oil Co.'s No. 1 Peck, 366 ft. N and W out of NW and SW of Bonnie View Subd.
S.D. 5,348 ft.

Quintana Oil Co.'s No. 2-A O'Connor, 450 ft. N and 450 ft. W of No. 1.
T.D. 5,808 ft.; estimated making 30 bbls. per hr.

Quintana Oil Co.'s No. 1-B O'Connor, 189 ft. E line and 3,525 ft. S line of B.B.B.&C. Sur., Abst. 96.
T.D. 5,621 ft.; sand 5,588-5,612 ft.; prepare to test.

VICTORIA COUNTY

Texas Co.'s No. 1 J. B. Midgett, N 35 deg. W 1,000 ft. and S 55 deg. W 1,000 ft. from SE cor. of lease in T.&N.O. Sur., Sec. 14.
S.D. 5,790 ft.

WALLER COUNTY

Capps & Sloan's No. 1 Vaughn, John McFarland Sur.
Estimated good for 25 bbls. per day on pump.

WHARTON COUNTY

Texas Gulf Prod. Co.'s No. 1 Kresta, 440 ft. N and E from SW cor. of tract in Sec. 54, W. B. Ivey Sur.
S.W. sand 6,333 ft.

SOUTH LOUISIANA
ACADIA PARISH

Woodley Pet. Co.'s No. 1 Daigle, NE cor. SE Sec. 24-7s-1e.
Coring 8,306 ft.

ALLEN PARISH

Humble O. & R. Co.'s No. 1 Industrial Lumber Co., 1,320 ft. W line and 2,440 ft. S line Sec. 21-3s-5w.
Drlg. shale 6,098 ft.

ASCENSION PARISH

Humble O. & R. Co.'s No. 2 S. Gumbel & Co., 500 ft. southwesterly from No. 1, 275 ft. easterly from road and approx. 475 ft. N of S line of tract, Sec. 33-10s-2e.
Location.

BEAUREGARD PARISH

Federal Pet. Co.'s No. 1-B Lutcher-Moore 6 miles NW of No. 1 Lutcher-Moore and near Fields.
Drlg. shale 8,415 ft.

Gulf Ref. Co.'s No. 1 Lutcher Moore, 660 ft. from S line, 760 ft. from E line, NE Sec. 25-6s-12w.
Drlg. gumbo 2,010 ft.

CALCASIEU PARISH

Pohs' No. 1 O. H. Castle, 330 ft. S and 330 ft. W of C Sec. 13-9s-8w.
Location.

Union Sulphur Co.'s No. 2 Barbe, 379 ft. S and 350 ft. W of NE cor of SE of Sec. 11-9s-3w.
Drlg. sticky shale 6,984 ft.

Union Sulphur Oil Co.'s No. 1 State Land, 1,940 ft. S, 2,513 ft. E of NW cor. Sec. 13-9s-8w.
Cmtd. 12½-in. csg. at 1,253 ft.; drlg. shale 2,797 ft.

Wheeler Oil Co.'s No. 1 Gabbert, 1,322 ft. E and 548 ft. N of SW cor. of Sec. 28-9s-7w.
Rigging up.

EAST FELICIANA PARISH

Thompson Creek Oil Co.'s No. 1 Fannie Noland, 2,600 ft. E and 1,580 ft. N of SW cor. Sec. 70.
S.D. 195 ft.

CAMERON PARISH

Texas Co.'s No. 10-A State, 16,855 ft. W and 3,270 ft. N of NE cor. Sec. 1-14-9w in Twp. 13s-9w.
No report.

LAFOURCHE PARISH

Barnadall Oil Co.'s No. 3 Harang Plantation Cutting and pulling D.S.; T.D. 6,252 ft.

R. L. Gay, trustee's No. 1 Godchaux, 3,931 ft. N and 1,746 ft. E in common cor. of Lots 34 and 26, Twp. 15s-19e.
S.D. 6,226 ft.

Southern Sulphur Corp.'s No. 1 D. L. Lagraize, 800 ft. E of NW cor. of Lot 7 thence 250 ft. S of Sec. 26-21s-22e.
Spudded and S.D.

PLAQUEMINES PARISH

Texas Co.'s No. 12 State-Garden Island Bay, Sec. 107-23s-32e.
Location.

Venice Corp.'s No. 1 Burras
Set 10-in. csg. at 1,533 ft.

RAPIDES PARISH

J. B. Evers' No. 1 G. Wettermark, 540 ft. S and 520 ft. E, NW cor. NE SW Sec. 35-6n-2e.
Location.

C. D. Loe's No. 1 Barrett, 330 ft. NW of SE line and 330 ft. NE of SW line of Sec. 40-5n-1w.
Rig up and S.D.

ST. BERNARD PARISH

Danciger's No. 1 Battles, 836 ft. N, 2,191 ft. W of SE cor Sec. 135-14s-14e.
Drlg. sand 3,215 ft.

ST. LANDRY PARISH

Bailey Gaunce's No. 1 Lewis, 300 ft. N and E of SW cor. of NW of NE of Sec. 29-5s-6e (workover).
S.D. 5,043 ft.

ST. MARTIN PARISH

Texas Co.'s No. 6 St. Martin Land Co., 660 ft. S and 500 ft. W of NE cor. SE Sec. 17-8s-7.
Drlg. sand 8,654 ft.

VERMILLION PARISH

Moore Bros.' No. 1 Brussard, 350 ft. S of N line, 250 ft. E of W line, NE cor. Sec. 32-11s-3e.
T.D. 4,056 ft.; fishing.

VERNON PARISH

Robert R. Williams, Sec. 8-1n-9w.
Rig up and S.D.

La.-Ark. Wildcats

(Continued from Page 56)

Jack Lent's No. 1 Brown Lbr. Co., 400 ft. S, 300 ft. E, NW cor. NE SW Sec. 27-9-13.
Set 6-in. with packer 2,471 ft.

Missouri Drlg. Co.'s No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10.
S.D. 1,033 ft.

Roy A. Raines et al's No. 1 Raines est., 330 ft. N and E, SW cor. Sec. 8-9-10.
Drlg. 2,550 ft.

OUACHITA PARISH

Carbon Consolidated's No. 9 Guthrie, 2,320 ft. N, 1,630 ft. E, SW cor. Sec. 23, in Sec. 49-20-4e.
Comp. 4,000,000 ft. gas, 2,145 ft.

Hope Pred. Co.'s No. 4 Cole, 660 ft. S and W NE cor. Sec. 7-19-4e.
Comp. 4,500,000 ft. gas, 2,155 ft.

United Public Service Co.'s No. 2 fee, 660 ft. S and W, NE cor. Sec. 26-19-3e.
Rigging up.

RED RIVER PARISH

Louis L. Glass' No. 1 Dickson, 400 ft. S and W, NE cor. SE Sec. 32-12-8.
S.D. 1,030 ft.

C. M. Cope et al's No. 1 Thomas, 330 ft. S and E, C Sec. 34-13-3.
Set 8-in. with packer, 1,614 ft.

SABINE PARISH

H. J. Brothers et al's No. 1 Edwards, 300 ft. S and W, NE cor. SW NW Sec. 29-9-13.
Drlg. 1,230 ft.

R. B. Campbell et al's No. 1 Cook Land Co., 150 ft. N, 300 ft. W, SE cor. NW NW Sec. 35-10-12.
Arranging to set 6-in. 1,558 ft.; T.D. 1,-586 ft.

Gerhig Oil Co.'s No. 3 Burkett, 330 ft. N and E, SW cor. SE SE Sec. 9-9-13.
Used acid 2,025 ft.

Graham & Dalton's No. 1 Burkett, 330 ft. N and W of C Sec. 16-9-13.
Comp. pumping 5 bbls., 1,992 ft.

Halliburton & Meadows' No. 1 Jackson, 330 ft. S and E, NW cor. NE NE Sec. 15-9-13.
P.B. to 1,650 ft.

H. M. Harrell's No. 1 Paul, 660 ft. N, 330 ft. W, SE cor. NE SW.
Comp. pumping 75 bbls., 1,975 ft.

Zan Lloyd's No. 1 Henderson, 330 ft. N and W, C Sec. 29-9-13.
W.O.S.R. 2,031 ft.

Dr. O. B. Hicks' No. 1 Neal, SE SW SE Sec. 18-9-12.
Set 10-in. 40 ft.

Steen Drlg. Co.'s No. 1-B A. J. Burkett, 330 ft. N and W SE cor. SE SW Sec. 9-9-13.
Comp. pumping 85 bbls., 1,995 ft.

RAPIDES PARISH

Evans & Collingsworth's No. 1 Hickman, 330 ft. S and E, NW cor. Sec. 40-4-1e.
Dry and abd. 2,130 ft.

C. D. Loe, trustee's No. 1 Baird Est., SE cor. Sec. 40-5n-1w.
Rigging up.

UNION PARISH

Lawson & Leavell's No. 1 J. N. Gunter, 640 ft. N and E, SW cor. Sec. 14-23-3w.
Set 10-in. 140 ft.; drlg. 2,250 ft.

Nemours Corp.'s No. 1 Haile, 1,980 ft. W, 660 ft. N, SE cor. Sec. 14-21-3e.
Comp. 2,500,000 ft. gas, 2,195 ft.

ARKANSAS
BRADLEY COUNTY

Seton Oil Co.'s No. 1 Murphy, 330 ft. S and W NE cor. SE Sec. 34-15-10.
Drlg. 3,185 ft.

COLUMBIA COUNTY

Dudney & Woodward's No. 1 Pearce, 330 ft. S and W, NE cor. NW Sec. 7-17-20.
Set 10-in. 132 ft.; S.D. 500 ft.

HEMPSTEAD COUNTY

Ark. Drlg. Co.'s No. 1 Jones, 1,000 ft. S, 600 ft. W, NE SE Sec. 11-14-24.
D.S. stuck 2,808 ft.

E. A. Austin's No. 1 McWilliams, 300 ft. N and W of SE cor. NW SW Sec. 19-13-23.
S.D. 700 ft.

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26.
S.D. 1,992 ft.

F. W. Martin & Co.'s No. 1 Lafferty, 500 ft. N and W SE cor. NW Sec. 17-14-24.
S.D. for wtr., 2,695 ft.

LAFAYETTE COUNTY

Benedum & Trees' No. 1 Bodcaw Lbr. Co., C NE NE Sec. 19-16-23.
Junked and abd. 3,804 ft. (corrected).

Benedum & Trees' No. 2 Bodcaw, C SE SE NE Sec. 19-16-23.
Derrick.

Douglas Lawn's No. 1 Camp, 330 ft. S and W, NE cor. SW SE Sec. 14-15-23.
S.D. 2,910 ft.

R. H. Neely's No. 1 Flemming, SW cor. NW SW Sec. 31-18-25.
Coring 3,280 ft.

MILLER COUNTY

Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27.
S.D. 3,177 ft.

Ark. Oil, Gas & Ref. Co.'s No. 1 Beck, SW cor. NW SW Sec. 34-15-26.
P.B. to 2,920 ft.

King Oil Corp.'s No. 1 C. H. Schroder, 200 ft. N, 330 ft. E, SW cor. SW NE Sec. 24-14-28.
S.D. 2,625 ft.

Magnolia Pet. Co.'s No. 4 Olivet, 330 ft. S and W, NE cor. Sec. 4-16-26.
W.O.S.R. 2,947 ft.

Oil Well Oil Corp.'s No. 1 Dodd, 300 ft. S, 200 ft. E, NW cor. SW NE Sec. 10-19-28.
Drlg. 2,385 ft.

Texarkana Oil Corp.'s No. 3 E. H. Beck, 330 ft. S and W NE cor. SE SE Sec. 33-15-26.
Comp. pumping 125 bbls., 2,927 ft.

John Wrather's No. 1 Beck, SW cor. SW SE Sec. 34-15-26.
W.O.S.R. 2,932 ft.

NEVADA COUNTY

O. F. Whittaker's No. 1-B Guttry, C SE SW Sec. 2-15-20.
Comp. pumping 15 bbls., 2,138 ft.

OUACHITA COUNTY

F. A. Book et al's No. 1 Arnold, Sec. 24-15-16.
S.D. 2,032 ft.

J. S. Carnes' No. 1 Scott, 150 ft. S and E, NW cor. SW NE Sec. 18-14-18.
Tested dry 1,835 ft.; arranging to deepen.

T. J. Gaughan's No. 1 Bragg, 330 ft. N and E, SW cor. NE SE.
Set 10-in. 104 ft.

J. D. Reynolds' No. 1 Guttry, 452 ft. S, 150 ft. W, NE cor. NE SW Sec. 21-15-19.
S.D. for wtr., 2,050 ft.

Sam M. Richardson & Co., Inc.'s No. 9 J. Goodwin, C NE SW Sec. 32-15-15.
Set 6-in. 1,928 ft.

UNION COUNTY

Mrs. R. K. Jones et al's No. 1 J. Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14.
Arranging to test 2,764 ft.

Lion Oil Ref. Co.'s No. 10-A Flenniken, 200 ft. N, 630 ft. E, C Sec. 10-16-15.
Rigged up and S.D.; W.O.

McCreslenn Oil Co.'s No. 2 G. Norman, 330 ft. N and W, SE cor. SE NE Sec. 3-18-13.
W.O.S.R. 3,574 ft.

McCreslenn Oil Co.'s No. 1 Union Saw Mill Co., 330 ft. N and W, SE cor. NE NW Sec. 3-18-13.
P.B. from 3,577 ft.

Reuter Oil Co., Inc.'s No. 1 J. L. Kinard, 330 ft. S and E, NW cor. SE NW Sec. 32-18-14.
Set 7-in. 2,147 ft.

Tubal Pet. Co.'s No. 1 Gaddy, 340 ft. N and E, SW cor. SE NW Sec. 14-17-14.
S.D.; W.O. 3,416 ft.

MISSISSIPPI
AMITE COUNTY

Mineral Resources, Inc.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e.
S.D. 550 ft.

CLARKE COUNTY

Clarke County O. & G. Co.'s No. 1 Kirkland, 1,320 ft. S, 660 ft. E NW cor. Sec. 10-2n-16e.
Dry and abd. 4,002 ft.

GREENE COUNTY

United Gas Pub. Service Co.'s No. 1 Greene County School Land, W½ W½ Sec. 16-1n-5w.
Location.

HINDS COUNTY

Alexander & Weaver's No. 1 Mayer & Gordon, 552 ft. W, 217 ft. S NW cor. NE Sec. 36-6n-1e.
Comp. 15,000,000 ft. gas, 2,431 ft.

JONES COUNTY

Snow-Black Pet. Co.'s No. 2 Watson, 520 ft. W, 200 ft. S, C Sec. 24-7n-13w.
D.S. stuck, 3,900 ft.

LAMAR COUNTY

Hix & Germany's No. 1 Newman Lbr. Co., 200 ft. N, 10 ft. E of C Sec. 21-4n-15w.
Dry and abd. 3,520 ft.

LAUDERDALE COUNTY

Bob Dal.on's No. 1 Bounds, Sec. 34-7n-15e.
Set 10-in. 560 ft.; S.D.; W.O.

MONROE COUNTY

P. J. McAlpine's No. 1 Crook, 1,090 ft. S, 90 ft. W, NE cor. Sec. 15-15s-17w.
Drlg. 510 ft.

RANKIN COUNTY

Fred W. Hemley's No. 1 G.M.&N. Ry., 1,775 ft. W, 575 ft. N, SE cor. NE Sec. 36-6n-1e.
Comp. 15,000,000 ft. gas, 2,431 ft.

SIMPSON COUNTY

Berry Corp.'s No. 2 R. T. Berry, Sec. 32-2n-4e.
Set 7-in. 2,048 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, SW cor. SW SE Sec. 24-2n-9e.
Partly rigged up and S.D.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E, CWL Sec. 14-14-1e.
S.D. 3,169 ft.

WASHINGTON COUNTY

Perkins & Dees' No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. Sec. 33-15n-8w.
Set 10-in. 300 ft. and S.D. (corrected).

WINSTON COUNTY

Jack Vale et al's No. 1 Moody, 713 ft. N, 667 ft. E, SW cor. NW SW Sec. 3-13n-14e.
S.D. 20 ft.

La.-Ark. Proven Fields

NORTH LOUISIANA
CADDO—HOSSTON

Louana O. & G. Co.'s No. 3 Hammock, 660 ft. N, 2,830 ft. W, SE cor. Sec. 32-19-16.
Coring 940 ft.

Bayou State O. & G. Co.'s No. 1 Connell, 1,900 ft. N, 1,198 ft. E, SW cor. Sec. 15-21-14.
W.O.S.R. 964 ft.

C. G. Gibbon's No. 1 Burglass, 573 ft. N, 660 ft. W, SE cor. NE NE.
Drlg. 2,016 ft.

Shoreline Oil Corp.'s No. 44 Crystal, 220 ft. S and E of C Sec. 13-21-16.
Rigging up.

Shoreline Oil Corp.'s No. 3 Harrell, 250 ft. S, 220 ft. E, NW cor. SE SW Sec. 2-21-16.
Coring 1,009 ft.

Shoreline Oil Corp.'s No. 1-B Standard, 260 ft. N and W, SE cor. Sec. 12-21-16.
Comp. 150,000 ft. gas, 1,058 ft.

CADDO—RODESSA

Ark.-La. Pipe Line Co.'s No. 1 Parker, 725 ft. S, 450 ft. E, NW cor. NE NW, Sec. 26-23-16.
Bailing to test 5,655 ft.

United Gas Pub. Serv. Co.'s No. 1 Christian, 724 ft. N, 1,382 ft. W SE cor. Sec. 23-23-16.
Set 7-in. 5,440 ft.

SABINE PARISH—ZWOLLE

Alexander & Cane's No. 1 Fogman, SE cor. N½ SW NE Sec. 18-7-11.
Arranging set csg. 2,353 ft.

Ivan A. Allen's No. 1 La. Long Leaf, 330 ft. N and W, SE cor. NW SE Sec. 12-7-11.
S.D. 1,920 ft.

Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12.
S.D. 1,100 ft.

Foster & Hartman's No. 1 Bowman-Hicks, 330 ft. S and E, NW cor. NE Sec. 10-7-12.
S.D.; W.O. 2,696 ft.

E. D. Holcomb's No. 1 Porter, 330 ft. S, 220 ft. W, NE cor. SE Sec. 7-7-11.
W.O.S.R. 2,580 ft.

H. C. Maulding's No. 1 Davis, 350 ft. N and W, SE cor. NE NE Sec. 2-7-11.
Rigging up.

H. C. Maulding's No. 2 DeLatin, 330 ft. S and E, NW cor. NE SE Sec. 3-7-11.
S.D. 2,250 ft.

Pelican Nat. Gas Co.'s No. 35 La. Long Leaf, 330 ft. S and E, NW cor. NW NE Sec. 9-7-11.
Set 7-in. 2,370 ft.

Pelican Nat. Gas Co.'s No. 14 Sabine Lbr. Co., 330 ft. N and W, SE cor. NE SW Sec. 11-7-12.
Tested dry; W.O. 2,642 ft.

Tarver & Bauer's No. 2 Barthold, 400 ft. E, 312 ft. S, NW cor. NW NE Sec. 35-8-12.
Set 10-in. 41 ft.; drlg. 2,147 ft.

Texas Co.'s No. 3 R. Mainer, 330 ft. N and W SE cor. Sec. 5-7-11.
Set 10-in. 43 ft.

Texas Co.'s No. 1 H. E. Wilson, 330 ft. S and W NE cor. SE SE Sec. 31-8-11.
Derrick.

Tex.-La.-Ark. Oil Co.'s No. 1 Pickering Lbr. Co., Sec. 3-8-12.
S.D. 2,210 ft.; (corrected).

EAST TEXAS (BORDER COUNTIES)
CASS COUNTY

R. K. Kamon et al's No. 1 Savage, Mary Patterson Sur.
S.D. 4,016 ft.

HARRISON COUNTY

R. C. Payne et al's No. 1 Lowery, E. D. Spain Sur.
P.B. to 3,524 ft.

PANOLA COUNTY

R. H. Davis' No. 1 Wooten Est., Winnie Mann Sur.
S.D. 2,092 ft.

Givens & Holloway's No. 1 Wooten est., Winnie Mann Sur.
Fishing for D.S. 1,780 ft.

R. W. Price's No. 1 Crawford, J. A. Williams Sur.
Rigging up.

Fred Stovall Drlg. Co.'s No. 1 H. B. Ivey, P. Martin H.R.S.
Drlg. 1,930 ft.

SHELBY COUNTY

Bush Oil Int.'s No. 1 Windham, W. M. Blackburn Sur.
S.D. 2,366 ft.

Cliff Stovall's No. 1 Pickering Lbr. Co., C. H. Patterson Sur.
Arranging resume drilling.

Turner & Neil's No. 1 Pickering Lbr. Co., P. W. Harvey Sur.
S.D. 250 ft.

ALABAMA
HOUSTON COUNTY

Rice O. & G. Co.'s No. 1 Oakley est., SE cor. NW SW Sec. 9-3n-29e.
Drlg. 2,220 ft.

LAMAR COUNTY

DeSoto O. & G. Corp.'s No. 1 Gardner, Sec. 22-15s-16w.
Fishing for tools 4,180 ft.

NEW AND IMPROVED EQUIPMENT

Improved Centrifuge for Gauger's Car Introduced

W. H. Curtin & Co., Inc., Houston, Tex., in collaboration with the International Equipment Co. of Boston, Mass., maker of centrifuges for over 30 years, has introduced an improved 6-volt oil testing centrifuge operating on any

standard 6-volt automobile storage battery. This machine may be mounted permanently in a gauger's automobile or by using a simple connector plug may be removed from the car when not in use.

The machine is designed to carry two standard Goetz 100 c.c. tubes, or four standard A.P.I. 15 c.c. tubes and both heads are interchangeable, made of manganese bronze, and easily removable. The enclosing guard bowl is made of one-sixteenth inch steel with hinged cast metal locking cover giving protection against dirt and accident.

The rotating diameter from tip to tip of the glass tubes requires that the centrifuge have a minimum speed of 1,590 r.p.m. according to the A.S.T.M. specifications. The specially designed motor, which takes only 9 amperes at full speed and under full load, drives the head and tubes at approximately 1,600 r.p.m. with a battery having a strength of only 4.9 volts at the motor terminals.

The machine, according to the manufacturers, turns the required revolutions per minute even if the battery is a little too weak to crank the smallest automobile, and draws less current than ordinary headlights. The height, cover closed, is 12 inches; diameter of guard bowl, 15¾ inches; diameter of base 8½ inches; net weight 27 pounds. It has a solid cast-iron base with four drilled holes for mounting bolts. Sealed bearings of the semilubricated type require only a few drops of oil occasionally. A descriptive bulletin is obtainable on request.

VALVE FOR OXWELD BLOWPIPE

A new type of needle valve, the ball-seat needle valve, is being supplied on most Oxweld blowpipes, according to announcement of the Linde Air Products Co., 30 East Forty-second Street, New York. The new valve is interchangeable on all of these blowpipes now in service. The new valve consists of a seat between the blowpipe body and the needle valve, which is made of a hardened and highly polished stainless steel ball, held in a cage at the end of the valve stem. This type valve closes readily with effort of two fingers and opens with equal readiness. The polished ball frees itself readily of all foreign particles that might impair the gas-tight seat. Consequently, blowpipes using these valves will need less maintenance work than ever before.

Among the Equipment Houses

The New York office of Tube-Turns, Inc., has been moved from 30 Church Street to the Bowery Savings Bank Building, 110 East Forty-second Street. M. P. Curley, district manager, is assisted by I. A. Pfeil.

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The Chain Belt Co. of Milwaukee, Wis., announces that R. X. Raymond, associated with the company over 14 years, has been appointed manager of the Minneapolis district, succeeding G. A. Gunther, who becomes district manager of the Detroit territory. Mr. Raymond goes to Minneapolis from the Chicago office.

—

A. I. (Alf) Matlock has joined the sales force of the International Supply Co., with headquarters in Houston, Tex. Mr. Matlock, prior to joining International, spent seven years with the Corbett Corp. and five years with the Emsco Screen Co., both of Houston.

—

Preparations are nearing completion for the annual meeting of the International Acetylene Association, in the William Penn Hotel, Pittsburgh, Pa., November 14-16.

—

Henry M. Chase has retired from the engineering staff of the Worthington Pump & Machinery Corp. He entered the engineering department of the Holyoke works of the company in 1891, and, with the exception of about a year, was identified with Worthington up to the time of his resignation.

—

H. A. Everlien, sales manager of the mechanical goods division, United States Rubber Products, Inc., has announced the appointment of H. S. McPherson as manager of mechanical sales in the St. Louis district. Mr. McPherson was formerly in charge of mechanical sales in the Boston district.

—

J. F. Bowman, vice president in charge of sales of the Federal Motor Truck Co. of Detroit, has announced the appointment of W. L. Schweninger as western sales manager, fleet division.

—

L. D. Wyant of 800 South Main Street, Tulsa, has been appointed Oklahoma representative for Kieley & Mueller, Inc., of New York, manufacturers of the K. & M. line of pressure and level control apparatus.

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The Aluminum Co. of America and the Chicago Bridge & Iron Works have each acquired an interest in the American Lumber & Treating Co., Chicago, which builds and operates plants for treating lumber with wolman salts to protect it from decay and damage by termites.

Expansion Rubbers Afford Wiping Pressure Required

Incorporating new features, the Shull swab is said to apply effective and correct principles in swabbing. It has expansion rubbers which may be adjusted to give any degree of expansion and wiping pressure desired but without the complication of intricate parts. Its operation is extremely simple and performance records to date indicate long life and satisfactory swabbing of both casing and tubing.

When running into the hole the two rubber assemblies are "up." They "ride" tandem-like, with the top assembly against the shoulder of the mandrel shank. The bottom nut, being off its seat when running in, permits free passage of the fluid along the channels of the mandrel stem, through the dual rubber assemblies.

When bottom is reached, the slidable rubber assemblies drop. The bottom nut of the lower assembly closes the fluid channels at the seat. Static load of the fluid column applies pressure to the swab rubbers from within. This fluid pressure is transmitted to the inner side of each rubber through a hole in the inner sleeves, thus expanding each rubber. This results in a clean wiping action against the wall of the casing.

The swab is manufactured by the Shull Perforating Co., Inc., 2750 Cherry Avenue, Long Beach, Calif.

Airco Cylinder Valve Has Stainless Steel Ball Seat

In line with its policy of modernizing and improving its equipment, the Air Reduction Sales Co., 60 East Forty-second Street, New York, has equipped more than 96 per cent of its oxygen cylinders with valves having a stainless steel ball seat.

While the valve proper closely resembles the older type valve in appearance, it differs in construction in that a hardened stainless steel ball forms the seat.

The valves not only open and close easily, but they are said also to possess superior sealing qualities and they do not corrode or score and cause leaks.

For over three years similar types of hardened stainless steel ball valves have been used on all Airco-DB welding and cutting torches. Their use has demonstrated that torches so equipped rarely require valve repairs other than the occasional renewal of valve stem packing.

CLOSED BACK SHOVEL OFFERED

An improved shovel, reported to have the advantages of other types, has been announced this month by the Wood Shovel & Tool Co., Piqua, Ohio. It is called Wood's closed back shovel and resembles the familiar hollow back type except that, instead of the usual hollow in the back of the blade, there is a steel plate welded securely to the blade and extending up into the socket. The upper part of the plate, however, is free to permit flexing.

Men Well Known in the Equipment Field

L. A. RAWSON

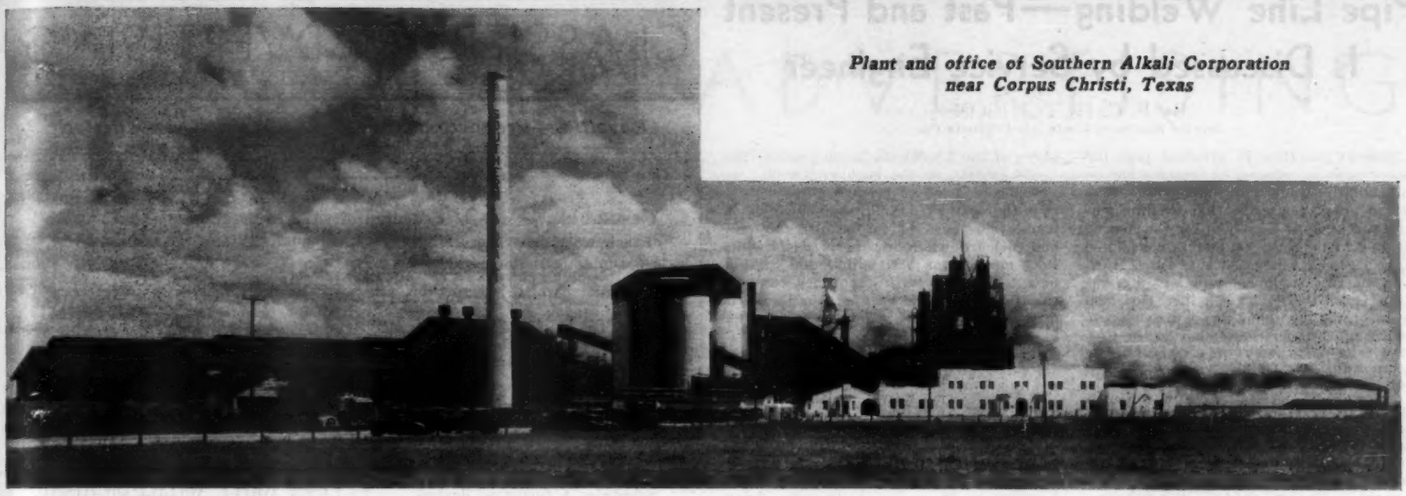
E. M. Smith announces the reorganization of the derrick division of Emsco Derrick & Equipment Co. and has appointed L. A. Rawson as manager of the derrick division for California, Mid-Continent and export.

Mr. Rawson has been connected with Emsco since the inception of the company, having acted as chief engineer in the construction of the original Los Angeles plant, and has been in charge of the structural division in Los Angeles since that time. In 1926 Mr. Rawson designed and built the Houston, Tex., plant and since then has divided his time between these two main derrick plants of the company in the capacity of chief engineer, structural division. For the past 15 years he has been active in the oil fields of the United States and foreign countries and is known for the improvements in derrick design and construction that he has developed. Mr. Rawson's headquarters will be in the main plant of the company in Los Angeles.

Simplicity and Efficiency Mark New Sterling Pumper

The new Sterling electric oil pumper is a simple, flexible unit, designed for efficient slow pumping on wells up to 5,000 feet pumping depth. Ease of changing the pumping speed, is said to assure operating the well under its individual conditions at a speed which will allow maximum production. As conditions in the well change, the rate of pumping or number of strokes per minute may be varied. The manufacturer of the unit is the Sterling Electric Motors of Los Angeles, Calif.

According to the manufacturers the motor is powerful, durable and dependable. Structurally, the unit has been designed with shock load absorbing features. It is compact, complete and self-contained. It is designed to assure maximum production from the well with minimum operating and maintenance cost. It provides automatic protection against excessive torque loads. Its construction embodies ball bearings and precision machine work throughout. Helical alloy-steel gears of generous size, heavy alloy gear cases, extreme flexibility, and quick operation are other features.



Plant and office of Southern Alkali Corporation near Corpus Christi, Texas

Plant Making Chemicals Used in Refining Utilizing Southwestern Texas Gas

A new enterprise early in September started a plant near Corpus Christi, Tex., of interest to the petroleum industry. This new plant of the Southern Alkali Corp. will make several chemicals used in the refining of crude oil and in manufacturing these chemicals will in turn use natural gas produced from wells in the gas and oil fields in southwestern Texas.

The principal product of this plant is caustic soda, of which the petroleum refiners are the largest consumers, approximately 130,000,000 tons being required each year as a neutralizing wash, removal of hydrogen sulphide, improving color, elimination of objective odors and as the essential material for preparing the doctor solution universally used for the sweetening of gasoline and kerosene.

This company is making different forms of the solid caustic soda, several different concentrations of the liquid caustic and also soda ash. All of these are of exceptional purity, showing 98 to 99 per cent absolute.

This project had its inception in 1931 when the Southern Alkali Corp. was formed when Pittsburgh Plate Glass Co. of Pittsburgh, Pa., and American Cynamid Co. of Cleveland, Ohio, decided to erect a plant for the manufacture of soda ash and caustic soda somewhere in the south.

An important factor in determining the factory site was the large available supply of gas. The combination of cheap power and a tide water site were the prime reasons why Corpus Christi was selected. Natural gas at the price equivalent to $1 per ton of coal is a very desirable adjunct to any manufacturing process.

This gas is to be produced from approximately 6,000 acres of land located within a convenient distance of the plant site. The gas is delivered through an 8-inch welded pipe line and the formation pressure of more than 1,500 pounds furnishes power with which this gas is transported to the plant through the comparatively small diameter line. In addition to the natural gas being drawn upon at this time there are numerous other large gas fields in the Southwest that will be available as the present supply is exhausted.

The principal raw materials for this plant are salt brine, limestone, oyster shell and coke. The salt is obtained from the company's own wells situated on the Palangana Dome in Duval County about 60 miles west of Corpus Christi. The salt brine is delivered to the 3,000,000-gallon reservoir at the plant through a 14-inch diameter cast-iron pipe line that is laid in a manner that permits of the fluid flowing by gravity from the wells to the reservoir. Difference of elevation between wells and plant is 450 feet.

Lime From Balcones Fault

Lime, another one of the primary raw materials, is obtained by burning calcium carbonate (limestone) in both rotary and vertical kilns as an integral part of the manufacturing process. An unlimited supply of high grade limestone is to be secured from the Balcones Fault area between Corpus Christi and San Antonio, and also from the extensive beds of marine shells that cover several square miles in the waters upon which the plant site fronts.

Fresh water for the process and boilers, as well as for cooling purposes in certain operations where it is not advisable to use sea water, is supplied through another cast iron pipe line from the municipal pumping station on the Nueces River 13 miles west of the plant site. This water is the same as used for Corpus Christi domestic purposes and will require chemical treatment only when used as boiler feed water. A 1,000,000-gallon reservoir at the plant site is floated on the line to take care of normal interruptions in service at the pumping stations, and in addition the city line and the company line will serve each other as a stand-by in the event of an emergency such as a serious fire. Sea water from the ship channel will be used for primary cooling purposes.

The coke is shipped from ovens at Eagle Pass, Tex., by railroad or from the Birmingham district, Alabama, by vessel via the Gulf of Mexico and later will be handled by intracoastal canal that terminates at Corpus Christi.

General Arrangements

The plant itself has been laid out with particular care to minimize inter-unit material and equipment handling costs, while permitting future expansion without interrupting production and without affecting the basic production scheme.

The various buildings form a hollow square capable of being enlarged several hundred feet in all directions. At least one side of every building is served by the yard track system while crossovers at both ends of the plant allow for very flexible switching distribution.

All buildings to be devoted to manufacture have been completed. All of the major pieces of equipment, including tanks with most of the distribution piping and conveyors have been installed. The boilers have been dried out and are in a position to deliver steam at any time. All of the electrical distribution system has been placed in operation and it remains only for sufficient permanent electrical load to be connected in around the plant to warrant putting the company generating units on the line.

The Southern Alkali Corp. maintains a technical staff which is available to the refiners without charge. The proper form of caustic soda, or other chemicals, will be advised after proper investigation. The technical department at Corpus Christi is prepared to investigate any problems related to the use of caustic soda and related alkaline substances.

"Forged Relief Valves for Safety," "Hard Surfaced Valve Discs," and "Handwheels Helpful Detail" are titles of interesting items in the current issue of Valve Values, sent on request to the Edward Valve & Manufacturing Co., Inc., East Chicago, Ind.

IMPORTANT BOOKS
for the Oil Man's Library

"THE CHEMISTRY OF PETROLEUM DERIVATIVES"

"The Chemistry of Petroleum Derivatives," by Carleton Ellis, a remarkable book of 1,285 pages, has just been published. It is no ordinary book, but a treatise so thoroughly covering the chemistry of petroleum hydrocarbons that it is destined to be enthusiastically welcomed by all who are interested in the chemistry of the hydrocarbons and the possibilities for the preparation of compounds from petroleum. No other book on petroleum chemistry begins to approach this one in thoroughness and subjects included

Mr. Ellis has had many years of practical experience within the industry, having had a large share in the development of the processes for the manufacture of the petroleum alcohols, certain well known cracking processes, treating and purification methods. He has obtained numerous patents relating to oil refining. He has therefore been especially well prepared to consider the practical application of what has been developed in the research laboratories for this treatise.

There is such a wealth of material, with so much detail, that it is difficult to adequately describe this work in a review.

There are 50 chapters in which the literature relative to petroleum compounds and the numerous patents for refining processes, cracking and synthesis, purification and recovery processes are described. The references to the original articles and patents are so extensive that they will prove exceedingly valuable when searching the art applications. The name and subject index has been prepared with care similar to that evidenced in the text; there are approximately 150 subjects to the page, and the index extends from page 1,155 to 1,285.

Some of the numerous subjects covered may be mentioned, simply as examples: Cracking processes and their products; production of aromatic hydrocarbons; the carbon black industry; reactions of hydrocarbons with steam; ethyl alcohol from ethylene; sulphur in petroleum and distillates, olefin oxides; halogenation of methane; aldehydes; oxidation and detonation; hydrogenation; cracking of natural gas.

This book should be in the hands of every petroleum chemist or refinery manager, and the research departments will find it of great assistance; patent attorneys, having to do with the petroleum industry, should appreciate the extensive references to patents. Those dealing in the chemicals used in the industry will turn to this book for reliable guidance in the research field as well as in matters relating to everyday operations.

"The Chemistry of Petroleum Derivatives" may be purchased through the Book Department of The Oil and Gas Journal at the regular price of $18.00, express prepaid. A copy of the volume will be forwarded promptly upon receipt of remittance for that sum. Where the order is not accompanied by payment the book will be sent express c.o.d.

Pipe Line Welding—Past and Present Is Discussed by Service Engineer

By F. C. HUTCHISON
Service Engineer, Linde Air Products Co.

Present practices in overland pipe lining present an interesting commentary on the evolution in welding methods. It was not so many years ago that welding was first proposed as a method for the joining of pipe. This was, no doubt, considered quite a radical change at that time. However, by the employment of welding, the strength of the joint was increased materially and the joint was better able to withstand the service stresses on the line. The joint efficiency was raised from around 60 to 70 per cent to 100 per cent.

Other advantages, aside from the factor of strength, were the inherent permanence of the welded construction from the standpoint of leakproofness, and its freedom from maintenance costs. These items themselves were sufficient reason for the adoption of the oxy-acetylene process in pipe line practice. It is interesting to recall that the initial requirements for the welded joint were concerned only with strength, tightness and permanence, and that the oxy-acetylene process has satisfied these requirements for years. Many tens of thousands of miles of welded pipe line have been laid in all parts of the country.

A New Welding Process

With these three factors taken for granted as inherent in the welding process, the emphasis has been shifted in recent times to the elements of speed in laying, and cost per joint. An important development in the mechanics of the oxy-acetylene process took place in 1930. Up to this time, the so-called "neutral" flame had been considered the ideal condition for making oxy-acetylene fusion welds in steel. Any departure from this neutral flame was believed to have a deleterious effect upon the weld metal. The Lindeweld process, however, required for its execution a flame condition which was distinctly carburizing, i.e., a flame in which there was a noticeable excess of acetylene. This was obviously an important development in as much as all of the time-honored concepts of flame adjustment and manipulative details had to be discarded.

This new welding process brought to industry not only an entirely different technique for the manipulation of both the blowpipe and the rod, but initiated at the same time a new concept of joint design with reference to the bevel preparation and the amount of weld metal reinforcement necessary to secure joints having 100 per cent strength.

The physical properties of welds obtained by the use of the Lindewelding process were accomplished by a number of factors, which together contributed to a superior metallurgy and a greater speed of welding. The excess acetylene flame which is characteristic of this process, provides a reducing atmosphere immediately surrounding the weld. The metallurgical reactions resulting from the use of the excess acetylene flame produce an increase in the density and homogeneity of the weld metal and are responsible for the increased tensile strength and ductility obtainable. The reducing atmosphere of the flame retains in the weld metal substantially the same carbon content as is present in the material being joined. A special welding rod is used which has a carbon content equivalent to the usual pipe material to be welded.

These metallurgical aspects derived by the excess acetylene flame have been further enhanced by special manipulation of the blowpipe and rod. The technique makes use of the "backhand" method of welding in which the inner cone and outer envelop of the flame are directed backwards upon the completed weld. This is quite the opposite to the ripple welding or "forehand" method in which the flame was directed toward the unwelded portion of the vee. As the reducing atmosphere of the Lindeweld flame protects the liquid puddle, so the backhand technique provides a protective envelop extending over the completed weld, thus shielding it from atmospheric oxidation until the weld has cooled down below the critical point. Lost motion has been eliminated in this new technique. With the inner cone of the flame concentrated upon the localized area of the abutting edges of the vee, the base metal is rapidly brought up to a fusion temperature. In applying this process the side walls of the vee are melted but slightly so that little admixture of base metal with the welding rod takes place.

Since the introduction of Lindewelding to pipe line practice in 1930, many thousands of miles of pipe lines, ranging from 4 inches to 26 inches in diameter, have been laid by this method.

Greater Speed and Economy Effected

It is characteristic of autogenous welding by the oxy-acetylene process that the transfer of heat from the blowpipe flame to the parts being welded is principally by the process of convection. It so happens that regardless of whatever manipulative technique may be employed in oxy-acetylene welding there is nevertheless a time interval required to bring the base material up to the fusion point. This time interval dictates the theoretical maximum speed in which the weld can be executed. Recent endeavors have been directed toward ways and means of still further increasing productivity and in view of the heat transfer phenomenon, cited above, there has been developed a multiple flame blowpipe for use with the Lindeweld process. This blowpipe enables a progressive heating of the base material to take place. In other words, instead of concentrating a fairly large flame at one point, this total heat is distributed over a considerable area in order to build up a preheat in the advancing or unwelded portion of the vee so that the main welding flame can effect its heat transfer through a decreased temperature range.

The fine grained structure of the weld metal resulting from the use of the multiple flame blowpipe has been accomplished primarily through the increased speed of welding. The phenomenon of grain growth in a fusion weld has been amply investigated in the past and these investigations have shown that there is some form of time-phase relationship existing with reference to grain size. Obviously, with this new development the weld metal is retained above the critical temperature for the shortest practicable length of time.

Along with greater speed of welding is a material decrease in the oxygen and acetylene required per joint. This latter item has varied between a 15 and 25 per cent saving, depending upon the welder's capabilities. For example, a short loop of 6-inch pipe (one-quarter inch wall) was laid recently in central Kansas. The firing line organization consisted of four welders and because only 12 miles of pipe were involved, no spell-off welder was deemed necessary. The firing line welding for this loop was completed in 33 working hours, in spite of the fact that production was slowed down to a certain extent because of heavy going through sandy right-of-way. The production per welder during the last day of this job when hard ground was reached, averaged 88 welds per day—or 11 welds per hour per operator. The oxygen and acetylene consumption per weld based on the average of 1,270 firing line welds, amounted to slightly less than 6½ cubic feet per weld. The completed loop was tested with 100 pounds air pressure and each joint examined by soap suds and water, under which test the line was shown to be "bottle tight."

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Tulsa, Oklahoma

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Ass't. Chief Traffic Officer
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Tubular gasoline condenser having 2,400 square feet area before assembly in our shops.

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Index to Advertisers

A
Abercrombie, J. S., Co. 57
Air Reduction Sales Co. .....
Allegheny Steel Co. 72
Allsteel Products Mfg. Co., The ....
Allis-Chalmers Manufacturing Co. ...
American Cable Co. .....
American Iron & Machine Works Co. .....Back Cover
American Meter Co. .....
American Recording Chart Co. .....
American Sheet & Tin Plate Co. .....
American Steel & Wire Co. .....
Auer, C. L., and W. W. 68
Axelson Manufacturing Co. .....
B
Baker Oil Tools, Inc. 6, 57
Baroid Sales Co. 55
Barrett Co., The .....
Barret, William M., Inc. .....
Bethlehem Steel Co. .....
Boston Woven Hose & Rubber Co. ...
Bradford Motor Works, Inc. .....
Brewster Co., Inc. .....
Bridgeport Machine Co. 43, 57
Broderick & Bascom Rope Co. .....
Brown Instrument Co., The .....
Buck & Stoddard, Inc. .....
Burlington-Rock Island Line .....
Butler Mfg. Co. .....
Byron Jackson Co. .....
C
Cameron Iron Works, Inc. 57
Caterpillar Tractor Co. .....
Chain Belt Co. .....
Chaplin-Fulton Mfg. Co., The 66
Chapman Valve Mfg. Co., The .....
Chevrolet Motor Co. .....
Chicago Bridge & Iron Works .....Inside Front Cover
Cities Service Oil Co. 4
Clark Bros. Co. .....
Classified Advertising 87
Climax Engineering Co. .....
Climax Molybdenum Co. .....
Coffing Hoist Co. .....
Continental Oil Co. .....
Continental Supply Co., The .....
Cooper-Bessemer Corp., The .....
Crane Co. 39
Crutcher, Rolfs & Cummings 51
Curtin, W. H., & Co. .....
D
Darling Valve & Mfg. Co. .....
Dart, E. M., Mfg. Co. .....
Davis Regulator Co. 69
Detroit Graphite Co. .....
Devine, J. P., Mfg. Co., Inc. 88
Diamond Metal Co., Inc. .....
Doheny Stone Drill Co. .....
Dowell Incorporated .....
Dresser, S. R., Mfg. Co. .....
DuPont DeNemours & Co., Inc., E. I. .....
E
Eagle-Picher Lead Co. 3
Economy Electric Lantern Co. ....
Edward Valve & Mfg. Co., Inc., The
Elliott Core Drilling Co. .....
Emsco Derrick & Equipment Co. ....
Ethyl Gasoline Corp. .....
F
Fairbanks-Morse .....
Falk Corp. .....
Filtrol Co. of Calif. .....
Firestone Tire & Rubber Co., The ...
First National Bank in Dallas .....
First National Bank & Trust Co. of Tulsa, The .....
Fisher Governor Co. .....
Fluid Packed Pump Co. 71
Fluor Corp., Ltd. .....
Fort Worth National Bank, The ....
Foster Wheeler Corp. .....
Four Wheel Drive Auto Co., The ...
Foxboro Co., The .....
Frick-Reid Supply Corp. .....
G
Gardner-Denver Co. .....
Garlock Packing Co., The .....
Gaso Pump & Burner Mfg. Co. .....
Gasoline Products Co., Inc. .....
Gates Rubber Co. .....
Gearench Mfg. Co. .....
General Electric Co. .....
General Motors Truck Co. .....
Gilbert & Barker Mfg. Co. .....
Goodyear Tire & Rubber Co., Inc. ...
Gott, H. P., Mfg. Co. 71
Grant Oil Tool Co. .....
Graver Tank & Mfg. Corp. .....
Guiberson Corp., The .....
Gulf Refining Co. 37
H
Halliburton Oil Well Cementing Co. .....Inside Back Cover
Hanlon-Buchanan, Inc. .....
Harrisburg Pipe & Pipe Bending Co.
Hause Valve Co., The .....
Hazard Wire Rope Co. .....
Heeter, C. M., Sons Co. .....
Hercules Motors Corporation 38
Hercules Tool Co. .....
Houston Oil Field Material Co., Inc.
Hughes Tool Co. .....Front Cover
Humble Oil & Refining Co. 68
Hydril Co. .....
I
Illinois Steel Co. .....
Ingersoll-Rand Co. .....
International Harvester Co. of America
International Derrick & Equipment Co., The .....
J
Jarecki Manufacturing Co. .....
Jenkins Bros. .....
Jerguson Gage & Valve Co. .....
Johns-Manville Corp. .....
Jones & Laughlin Steel Corp. .....
Jones Co., The S. M. .....
K
Kellogg, M. W., Co., The 33
Kennedy Valve Mfg. Co., The .....
L
Landis Machine Co., Inc. 1
Lane Wells Co., The .....
Lincoln Electric Co., The .....
Linde Air Products Co., The .....
Link-Belt Co. .....
Louisiana Supply Co. .....
Lucey Products Corp. .....
Ludlow Valve Mfg. Co., The .....
Lufkin Foundry & Machine Co. .....
Lummus Co., The 2
Lunkenheimer Co., The .....
Mc
McCord Radiator & Mfg. Co. .....
McEvoy, J. H., & Co. .....
McIntosh & Seymour Corp. 34
M
MacClatchie Manufacturing Co. .....
Macwhyte Co. .....
Magnolia Petroleum Co. .....
Maloney Tank Mfg. Co. .....
Manhattan Rubber Mfg., Division of Raybestos-Manhattan, Inc. .....
Martin-Decker Corp. 59
Mason-Neilan Regulator Co. .....
Mepham Corp., Geo. S. .....
Merco Nordstrom Valve Co. .....
Miller Sand Pump Co. .....
Mission Mfg. Co. .....
Missouri Pacific Lines 88
Moore, Lee C., & Co., Inc. .....
Murray-Brooks Hdwe. Co., Ltd. .....
Muskogee Iron Works .....
N
National Bank of Tulsa .....
National Lead Co. .....
National Supply Co., The .....
National Transit Pump & Machine Co. 21
National Tube Co. 41
Nicholson & Co., W. H. .....
Norvell-Wilder Supply Co. .....
Nugent & Co., Wm. W. .....
O
Oil Center Tool Co., Inc. .....
Oil Conservation Engineering Co. ...
Oil Well Supply Co. .....
Oklahoma Gas & Electric Co. .....
Oxweld Acetylene Co. .....
P
Pacific Pump Works .....
Parkersburg Rig & Reel Co., The ..
Parsons Co., The Ralph M. .....
Penberthy Injector Co. 17
Pennsylvania Grade Crude Oil Association .....
Petroleum Building .....
Petroleum Rectifying Co. of Calif. ..
Pittsburgh Steel Co. .....
Powell Co., The Wm. .....
Prest-O-Lite Co. .....
Pure Oil Co., The .....
R
Reed Roller Bit Co. .....
Reid, Joseph, Gas Engine Co. .....
Reo Motor Car Co. .....
Republic Rubber Co., The .....
Republic Steel Corp. (Upson Nut Division) 47
Republic Steel Corp. .....
Roebling's, John A., Sons Co. .....
Rubloff & Co., Arthur .....
Ryerson & Son, Inc., Joseph T. 68
S
Security Engineering Co. .....
Seismograph Service Corporation ....
Shell Union Oil Corp. .....
Sinclair Refining Co. .....
Smith, E. M., Co. .....
Smooth-On Mfg. Co. .....
South Chester Tube Co. .....
Southern Alkali Corporation .....
Southwestern Engineering Co. .....
Sperry-Sun Well Surveying Co. 68
Sullivan Co., The .....
T
Taylor Forge & Pipe Works .....
Taylor Instrument Companies .....
Texas Electric Service Co. .....
Texas Iron Works 67
Thermoid Rubber Co., The .....
Timken Roller Bearing Co. .....
Timken Steel & Tube Co. .....
Trackson Co. .....
Tretolite Co. .....
Tube Turns, Inc. .....
Tulsa Camera Record Co. 69
Tulsa Chamber of Commerce .....
Twin Disc Clutch Co. .....
U
Union Carbide & Carbon Co. .....
Union Carbide Sales Co. .....
Union Wire Rope Corp. .....
Universal Oil Products Co. 19
V
Vellumoid Co., The 66
Vogt, Henry, Machine Co. .....
W
Walworth Co. .....
Warren Petroleum Co. .....
Waukesha Motor Co. .....
Weil Machinery & Supply Co. 69
Westinghouse Elec. & Mfg. Co. ...
Williams, C. K., Co. of Calif., Ltd. ..
Williams & Co., J. H. .....
Williamsport Wire Rope Co. .....
Wilson Supply Co. .....
W. K. M. Co., Inc. .....
Worthington Pump & Machinery Corp..
Wyatt Metal & Boiler Works .....
Y
Youngstown Sheet & Tube Co., The
Yowell Service Co., O. P. .....